Colour Television **Chassis**

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Service
Service
Service

Service Manual

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PHILIPS

1. Technical Specifications, Connections, and Chassis Overview

Index of this chapter:

1.1 Technical Specifications
1.2 Connections
1.3 Chassis Overview

Note: Figures below can deviate slightly from the actual situation, due to the different set executions.

1.1 Technical Specifications

1.1.1 Vision

Display type	:	LCD LPL
Screen size	:	32" (80 cm), 16:9
Resolution (H × V pixels)	:	1366 × 768p
Contrast ratio	:	600 : 1
Light output (cd/m2)	:	500
Response time (ms)	:	8
Viewing angle (H×V degrees)	:	178 × 178
Tuning system	:	PLL
Tuner bands	:	VHF, UHF, S-Channel and Hyperband
TV color systems	:	PAL B/G
	:	PAL D/K
	:	PAL I
	:	SECAM B/G
	:	SECAM D/K
	:	NTSC
Video playback	:	NTSC, PAL, SECAM
Supported video formats	:	(640 × 480)i, 1Fh
	:	(640 × 480)p, 2Fh
	:	(720 × 576)i, 1 Fh
	:	(720 × 576)p, 2Fh
	:	(1280 × 720)p, 3 Fh
	:	(1920 × 1080)p, 2Fh
Supported computer formats	:	640 × 480 @ 60, 72, 75, 85 Hz
	:	800 × 600 @ 56, 60, 72, 75, 85 Hz
	:	1024 × 768 @ 60 Hz
Channel selections	:	125 presets
Aerial input	:	75 ohm, Coax
	:	IEC75 connector

1.1.2 Sound

Sound systems	:	NICAM, 2CS, AM-MONO, FM-MONO
Maximum power (WRMS)	:	2 × 5

1.1.3 Miscellaneous

Power supply:		
- AC Power voltage (VAC)	:	90 - 264
- AC Power frequency (Hz)	:	50/60
Ambient conditions:		
- Temperature range	:	+5 to +40 °C
- Maximum humidity	:	90% R.H.
Power consumption		
- Normal operation	:	150 W
- Stand-by	:	< 3W
Dimensions (W × H × D cm)	:	79.0 × 54.0 ×11.0
Weight (kg)	:	18.2

1.2 Connections

Note: The following connector color abbreviations are used (acc. to DIN/IEC 757): Bk= Black, Bu= Blue, Gn= Green, Gy= Grey, Rd= Red, Wh= White, and Ye= Yellow.

1.2.1 Rear and side I/O Connections

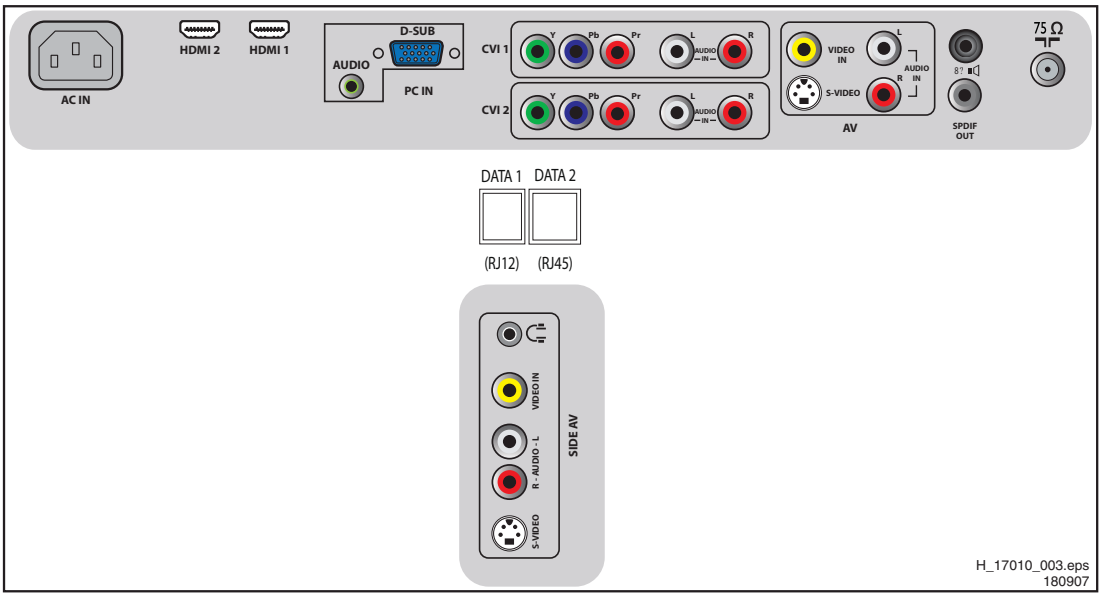

Figure 1-1 Rear and Side I/O connections

AV3 HDMI: Digital Video - In, Digital Audio - In

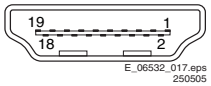

Figure 1-2 HDMI (type A) connector

1	- D2+	Data channel	⊕
2	- Shield	Gnd	⏚
3	- D2-	Data channel	⊕
4	- D1+	Data channel	⊕
5	- Shield	Gnd	⏚
6	- D1-	Data channel	⊕
7	- D0+	Data channel	⊕
8	- Shield	Gnd	⏚
9	- D0-	Data channel	⊕
10	- CLK+	Data channel	⊕
11	- Shield	Gnd	⏚
12	- CLK-	Data channel	⊕
13	- n.c.		
14	- n.c.		
15	- DDC_SCL	DDC clock	⊕
16	- DDC_SDA	DDC data	⊕⊖
17	- Ground	Gnd	⏚
18	- +5V		⊕
19	- HPD	Hot Plug Detect	⊕
20	- Ground	Gnd	⏚

Hosiden: SVHS (Input)

1	- Ground Y	Gnd	⏚
2	- Ground C	Gnd	⏚
3	- Video Y	1 VPP / 75 ohm	⊕
4	- Video C	0.3 VPP / 75 ohm	⊕

Cinch (Input)

Ye	- Video CVBS	1 VPP / 75 ohm	⊕◎
Wh	- Audio L	0.5 VRMS / 10kohm	⊕◎
Rd	- Audio R	0.5 VRMS / 10kohm	⊕◎

AV3 Cinch: Audio - In

Rd	- Audio R	0.5 VRMS / 10 kohm	⊕◎
Wh	- Audio L	0.5 VRMS / 10 kohm	⊕◎

AV3 VGA: Video 2fH RGB - In

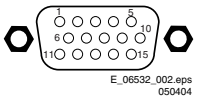

Figure 1-3 VGA Connector

1	- Video Red	0.7 VPP / 75 ohm	⊕
2	- Video Green	0.7 VPP / 75 ohm	⊕
3	- Video Blue	0.7 VPP / 75 ohm	⊕
4	- n.c.		
5	- Ground	Gnd	⏚
6	- Ground Red	Gnd	⏚
7	- Ground Green	Gnd	⏚
8	- Ground Blue	Gnd	⏚
9	- +5V_DC	+5 VDC	⊕
10	- Gnd Sync	Gnd	⏚
11	- n.c.		
12	- DDC_SDA	DDC data	⊕
13	- H-sync	0 - 5 V	⊕
14	- V-sync	0 - 5 V	⊕
15	- DDC_SCL	DDC clock	⊕

AV2 SVHS: Video 1fH Y/C - In

1	- Ground Y	Gnd	⏚
2	- Ground C	Gnd	⏚
3	- Video Y	1 VPP / 75 ohm	⊕
4	- Video C	0.3 VPP / 75 ohm	⊕

Monitor Out Mini Jack: Video CVBS - Out, Audio - Out

1	- Audio R	0.5 VRMS / 10 kohm	⊖◎
2	- Gnd CVBS	Gnd	⏚
3	- Video CVBS	1 VPP / 75 ohm	⊖◎
4	- Audio L	0.5 VRMS / 10 kohm	⊖◎

AV1/2 Cinch: Video 1fH CVBS/YPbPr - In, Audio - In

Wh	- Audio L	0.5 VRMS / 10 kohm	⊕◎
Rd	- Audio R	0.5 VRMS / 10 kohm	⊕◎
Bu	- Video Pb	0.7 VPP / 75 ohm	⊕◎
Rd	- Video Pr	0.7 VPP / 75 ohm	⊕◎
Gn	- Video Y	1 VPP / 75 ohm	⊕◎

Bathroom Speaker - Out

-	- mini jack	Speaker out	⊖◎

Aerial - In

-	- F-type	Coax, 75 ohm	⊤

Service connector 1 (UART)

1	- UART_TX	Transmit data	⊖
2	- Ground	Gnd	⏚
3	- UART_RX	Receive data	⊕

Service connector 2 (ComPair)

1	- SDA-S	I2C Data (0 - 5 V)	⊕⊖
2	- SCL-S	I2C Clock (0 - 5 V)	⊕
3	- Ground	Gnd	⏚

Head phone (Output)

Bk	- Head phone	10 mW / 32 ohm	◎ 3.5mm

RJ12 DATA1 (HM-Link - In/Out)

1	- LED_in	< 0.3 V, active low	⊕
2	- IR_in	< 0.3 V, active low	⊕
3	- MODE	Vcc	⊕
4	- TV Power Status	4.5 to 5 V: TV “On”	
		< 0.3 V: TV “Stdby”	
		High impedance: TV “Off”	⊖
5	- Gnd	Gnd	⏚
6	- IR_out	Signal	⊖

RJ45 DATA2 (Xpress Box - In/Out)

1	- +12V	+12V/1W	⊖
2	- Gnd	Gnd	⏚
3	- H-sync	Signal	⊖
4	- V-sync	Signal	⊖
5	- TXD232	Signal	
6	- RXD232	Signal	
7	- SDA3_IR-OUT	Signal	⊖
8	- DCM-POR	Signal	⊖
9	- CVBSterr	Signal	⊖
10	- Gnd CVBSterr	Gnd	⏚

1.3 Chassis Overview

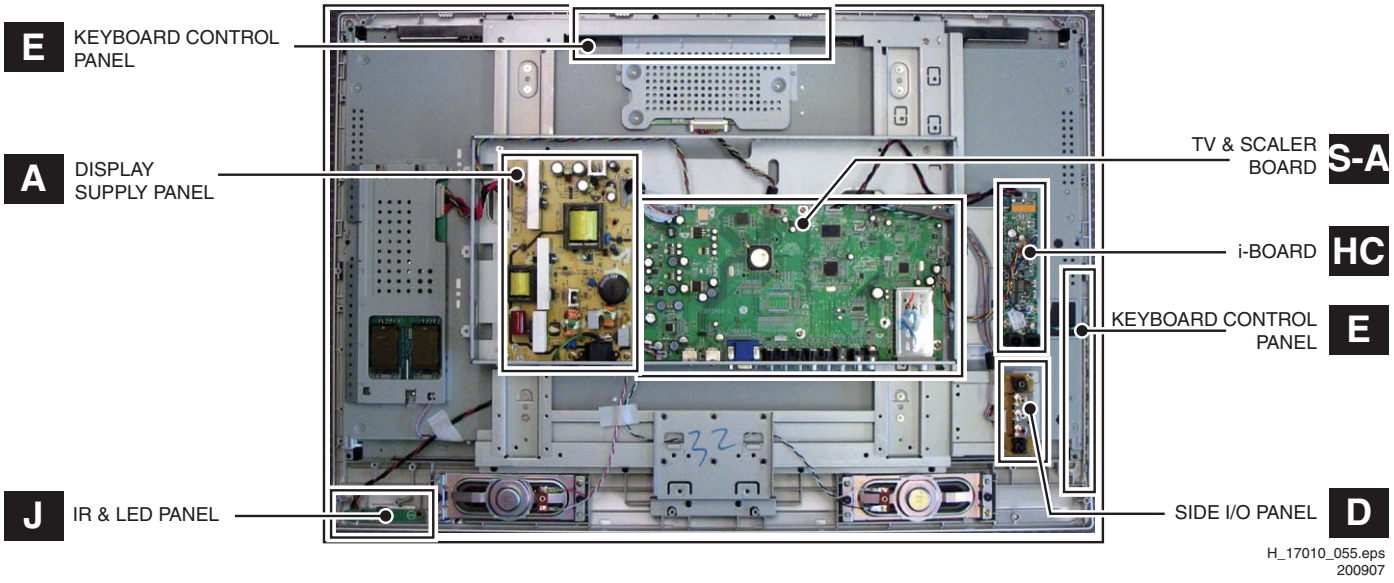

Figure 1-4 PWB / CBA locations

2. Safety Instructions, Warnings, and Notes

Index of this chapter:

1.1 Technical Specifications
1.2 Connections
1.3 Chassis Overview

2.1 Safety Instructions

Safety regulations require the following **during** a repair:

- Connect the set to the Mains/AC Power via an isolation transformer (> 800 VA).
- Replace safety components, indicated by the symbol ⚠, only by components identical to the original ones. Any other component substitution (other than original type) may increase risk of fire or electrical shock hazard.

Safety regulations require that **after** a repair, the set must be returned in its original condition. Pay in particular attention to the following points:

- Route the wire trees correctly and fix them with the mounted cable clamps.
- Check the insulation of the Mains/AC Power lead for external damage.
- Check the strain relief of the Mains/AC Power cord for proper function.
- Check the electrical DC resistance between the Mains/AC Power plug and the secondary side (only for sets that have a Mains/AC Power isolated power supply):
  1. Unplug the Mains/AC Power cord and connect a wire between the two pins of the Mains/AC Power plug.
  2. Set the Mains/AC Power switch to the “on” position (keep the Mains/AC Power cord unplugged!).
  3. Measure the resistance value between the pins of the Mains/AC Power plug and the metal shielding of the tuner or the aerial connection on the set. The reading should be between 4.5 Mohm and 12 Mohm.
  4. Switch “off” the set, and remove the wire between the two pins of the Mains/AC Power plug.
- Check the cabinet for defects, to prevent touching of any inner parts by the customer.

2.2 Warnings

- All ICs and many other semiconductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically. Make sure that, during repair, you are connected with the same potential as the mass of the set by a wristband with resistance. Keep components and tools also at this same potential. Available ESD protection equipment:
  – Complete kit ESD3 (small tablemat, wristband, connection box, extension cable and earth cable) 4822 310 10671.
  – Wristband tester 4822 344 13999.
- Be careful during measurements in the high voltage section.
- Never replace modules or other components while the unit is switched “on”.
- When you align the set, use plastic rather than metal tools. This will prevent any short circuits and the danger of a circuit becoming unstable.

2.3 Notes

2.3.1 General

- Measure the voltages and waveforms with regard to the chassis (= tuner) ground (⏚), or hot ground (⏚), depending on the tested area of circuitry. The voltages and waveforms shown in the diagrams are indicative. Measure them in the Service Default Mode (see chapter 5) with a colour bar signal and stereo sound (L: 3 kHz, R: 1 kHz unless stated otherwise) and picture carrier at 475.25 MHz for PAL, or 61.25 MHz for NTSC (channel 3).
- Where necessary, measure the waveforms and voltages with (⊓) and without (⊼) aerial signal. Measure the voltages in the power supply section both in normal operation (①) and in stand-by (⏻). These values are indicated by means of the appropriate symbols.
- Manufactured under license from Dolby Laboratories. “Dolby”, “Pro Logic” and the “double-D symbol”, are trademarks of Dolby Laboratories.

2.3.2 Schematic Notes

- All resistor values are in ohms, and the value multiplier is often used to indicate the decimal point location (e.g. 2K2 indicates 2.2 kohm).
- Resistor values with no multiplier may be indicated with either an “E” or an “R” (e.g. 220E or 220R indicates 220 ohm).
- All capacitor values are given in micro-farads ($\mu = \times 10^{-6}$), nano-farads ($n = \times 10^{-9}$), or pico-farads ($p = \times 10^{-12}$).
- Capacitor values may also use the value multiplier as the decimal point indication (e.g. 2p2 indicates 2.2 pF).
- An “asterisk” (*) indicates component usage varies. Refer to the diversity tables for the correct values.
- The correct component values are listed in the Spare Parts List. Therefore, always check this list when there is any doubt.

2.3.3 BGA (Ball Grid Array) ICs

Introduction

For more information on how to handle BGA devices, visit this URL: *www.atyourservice.ce.philips.com* (needs subscription, not available for all regions). After login, select “Magazine”, then go to “Repair downloads”. Here you will find Information on how to deal with BGA-ICs.

BGA Temperature Profiles

For BGA-ICs, you **must** use the correct temperature-profile, which is coupled to the 12NC. For an overview of these profiles, visit the website *www.atyourservice.ce.philips.com* (needs subscription, but is not available for all regions)
You will find this and more technical information within the “Magazine”, chapter “Repair downloads”.
For additional questions please contact your local repair help desk.

2.3.4 Lead-free Soldering

Due to lead-free technology some rules have to be respected by the workshop during a repair:

- Use only lead-free soldering tin Philips SAC305 with order code 0622 149 00106. If lead-free solder paste is required, please contact the manufacturer of your soldering equipment. In general, use of solder paste within workshops should be avoided because paste is not easy to store and to handle.
- Use only adequate solder tools applicable for lead-free soldering tin. The solder tool must be able:
  – To reach a solder-tip temperature of at least 400°C.
  – To stabilize the adjusted temperature at the solder-tip.
  – To exchange solder-tips for different applications.
- Adjust your solder tool so that a temperature of around 360°C - 380°C is reached and stabilized at the solder joint. Heating time of the solder-joint should not exceed ~ 4 sec. Avoid temperatures above 400°C, otherwise wear-out of tips will increase drastically and flux-fluid will be destroyed.

To avoid wear-out of tips, switch “off” unused equipment or reduce heat.

- Mix of lead-free soldering tin/parts with leaded soldering tin/parts is possible but PHILIPS recommends strongly to avoid mixed regimes. If this cannot be avoided, carefully clear the solder-joint from old tin and re-solder with new tin.

2.3.5 Alternative BOM identification

The **third digit** in the serial number (example: AG**2**B0335000001) indicates the number of the alternative B.O.M. (Bill Of Materials) that has been used for producing the specific TV set. In general, it is possible that the same TV model on the market is produced with e.g. two different types of displays, coming from two different suppliers. This will then result in sets which have the same CTN (Commercial Type Number; e.g. 28PW9515/12) but which have a different B.O.M. number.
By looking at the third digit of the serial number, one can identify which B.O.M. is used for the TV set he is working with. If the third digit of the serial number contains the number “1” (example: AG**1**B033500001), then the TV set has been manufactured according to B.O.M. number 1. If the third digit is a “2” (example: AG**2**B0335000001), then the set has been produced according to B.O.M. no. 2. This is important for ordering the correct spare parts!
For the third digit, the numbers 1...9 and the characters A...Z can be used, so in total: 9 plus 26= 35 different B.O.M.s can be indicated by the third digit of the serial number.

Identification: The bottom line of a type plate gives a 14-digit serial number. Digits 1 and 2 refer to the production centre (e.g. AG is Bruges), digit 3 refers to the B.O.M. code, digit 4 refers to the Service version change code, digits 5 and 6 refer to the production year, and digits 7 and 8 refer to production week (in example below it is 2006 week 17). The 6 last digits contain the serial number.

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Figure 2-1 Serial number (example)

2.3.6 Board Level Repair (BLR) or Component Level Repair (CLR)

If a board is defective, consult your repair procedure to decide if the board has to be exchanged or if it should be repaired on component level.
If your repair procedure says the board should be exchanged completely, do not solder on the defective board. Otherwise, it cannot be returned to the O.E.M. supplier for back charging!

2.3.7 Practical Service Precautions

- **It makes sense to avoid exposure to electrical shock.** While some sources are expected to have a possible dangerous impact, others of quite high potential are of limited current and are sometimes held in less regard.
- **Always respect voltages**. While some may not be dangerous in themselves, they can cause unexpected reactions that are best avoided. Before reaching into a powered TV set, it is best to test the high voltage insulation. It is easy to do, and is a good service precaution.

3. Directions for Use

You can download this information from the following websites:
http://www.philips.com/support
http://www.p4c.philips.com

4. Mechanical Instructions

Index of this chapter:

4.1 Cable Dressing
4.2 Service Positions
4.3 Assy/Panel Removal
4.4 Set Re-assembly

Notes:

- Figures below can deviate slightly from the actual situation, due to the different set executions.
- Follow the disassemble instructions in described order.

4.1 Cable Dressing

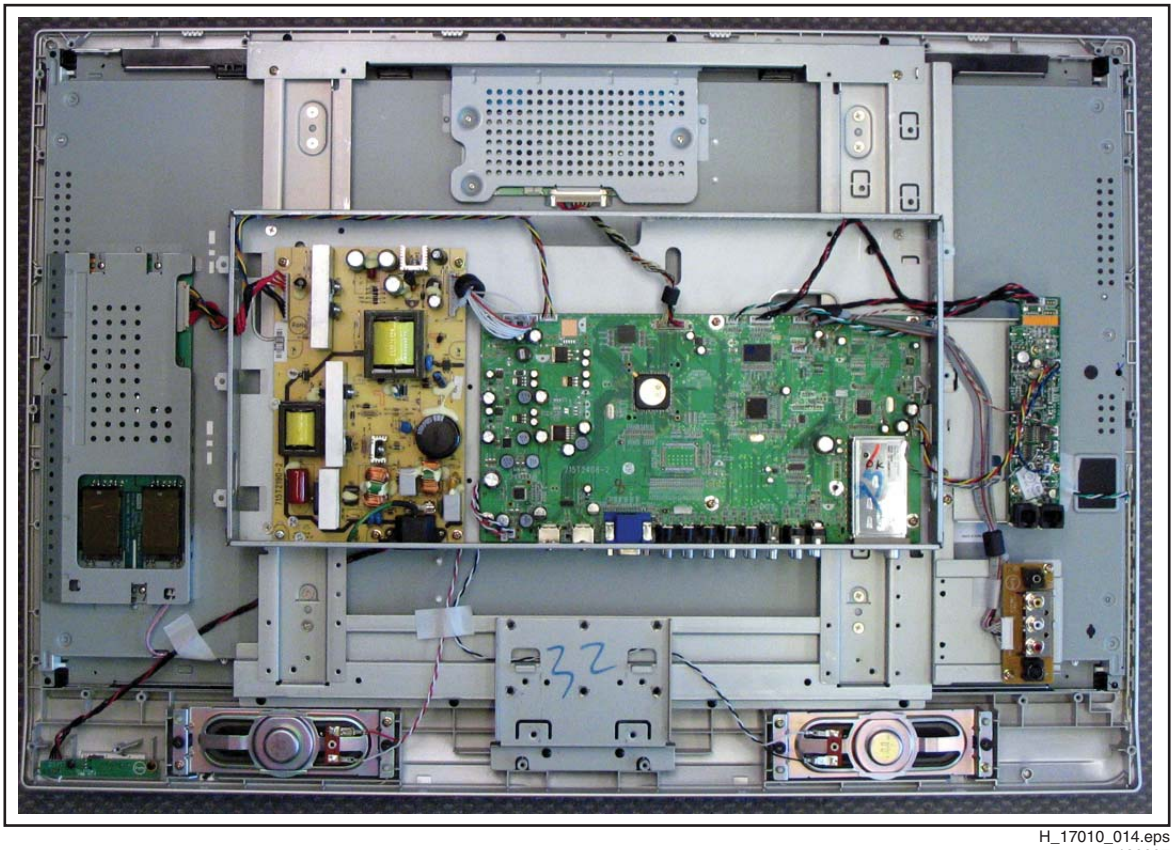

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Figure 4-1 Cable dressing

4.2 Service Positions

For easy servicing of this set, there are a few possibilities created:

- The buffers from the packaging (see figure “Rear cover”).
- Foam bars (created for Service).

4.2.1 Foam Bars

The foam bars (order code 3122 785 90580 for two pieces) can be used for all types and sizes of Flat TVs. See figure “Foam bars” for details. Sets with a display of 42" and larger, require **four** foam bars [1]. Ensure that the foam bars are always supporting the cabinet and **never** only the display. **Caution:** Failure to follow these guidelines can seriously damage the display!

By laying the TV face down on the (ESD protective) foam bars, a stable situation is created to perform measurements and alignments. By placing a mirror under the TV, you can monitor the screen.

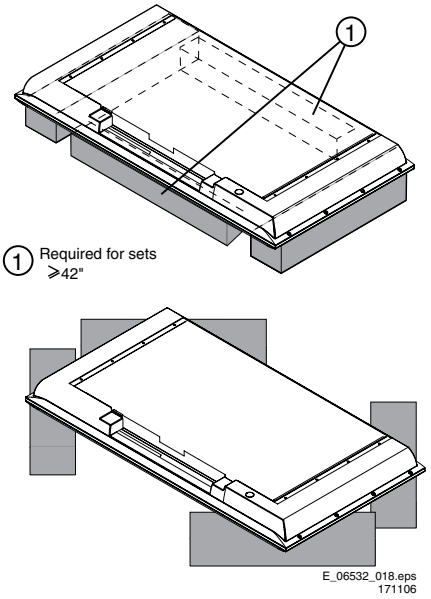

Figure 4-2 Foam bars

4.3 Assy/Panel Removal

4.3.1 Stand and Back Cover removal

Warning: Disconnect the mains power cord before you remove the rear cover.

Refer to figure “Stand and Back Cover removal” for details.

1. Place the TV set upside down on a table top, using the foam bars (see part “Foam Bars”).
   Caution: do **not** put pressure on the display, but let the monitor lean on the speakers or the Front cover.
2. Remove the screws [1] that secure the stand.
3. Pull down the stand to remove it.
4. Remove the screws [2} that secure the rear cover.
5. Lift the rear cover from the bottom side up from the cabinet.

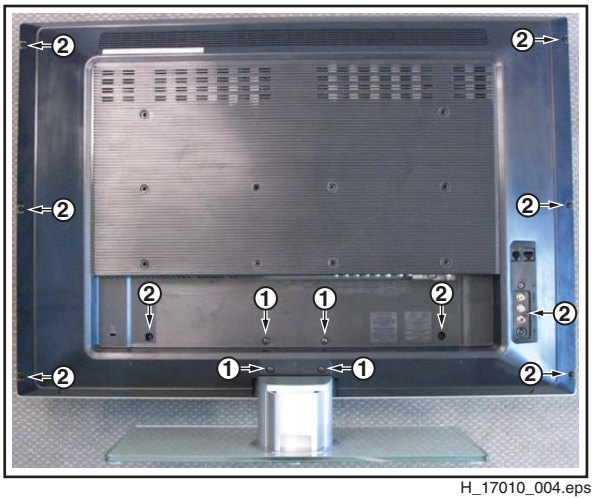

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Figure 4-3 Stand and Back Cover removal

4.3.2 I-Board removal

Refer to figure “I-Board removal” for details.
1. Disconnect the connectors [1] from the panel.
2. Remove the fixation screws [2].
3. Gently release the glued bottom side [3] of the panel and lift the panel out of the bracket.

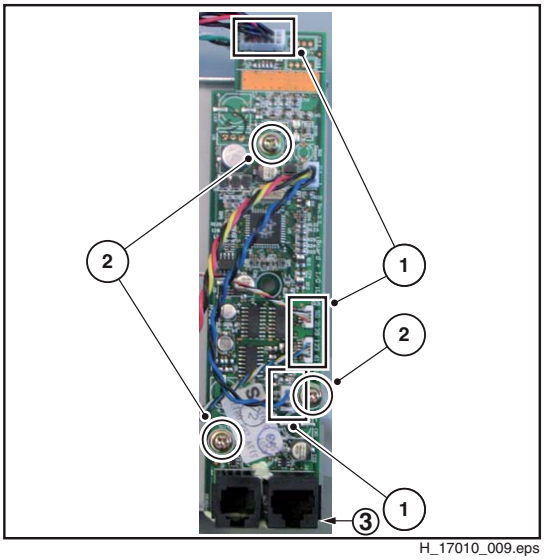

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Figure 4-4 I-Board removal

4.3.3 IR and LED Panel removal

Refer to figure “IR and LEDl Panel removal” for details.
1. Disconnect the connector [1] from the panel.
2. Remove the fixation screws [2].
3. Take out the panel.

When defective, replace the whole unit.

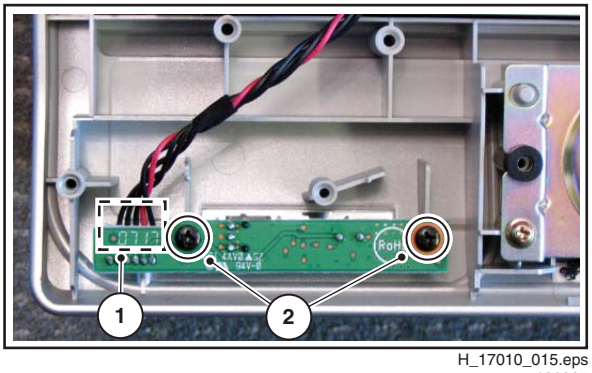

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Figure 4-5 IR and LED Panel removal

4.3.4 Speaker removal

Refer to figure “Speaker removal” for details.
1. Disconnect the connectors [1] from the speaker.
2. Remove the fixation screws [2].
3. Take out the speaker.

When defective, replace the whole unit.

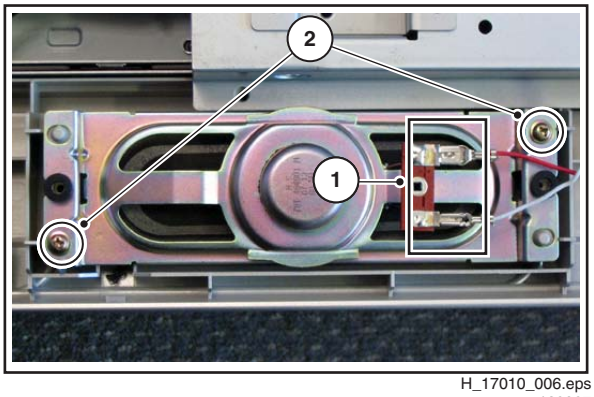

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Figure 4-6 Speaker removal

4.3.5 Keyboard Control Panel removal

Refer to figure “Keyboard Control Panel removal” for details.
1. Disconnect the connector [1] from the panel.
2. Gently release the panel clips in the indicated direction.
3. Take out the panel.

When defective, replace the whole unit.

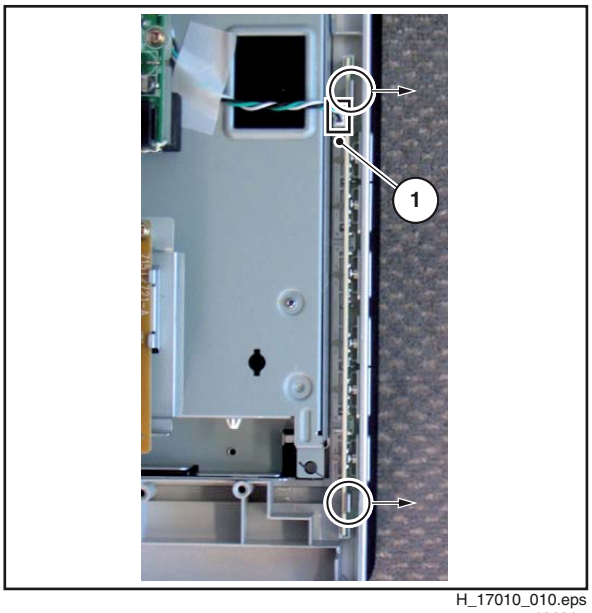

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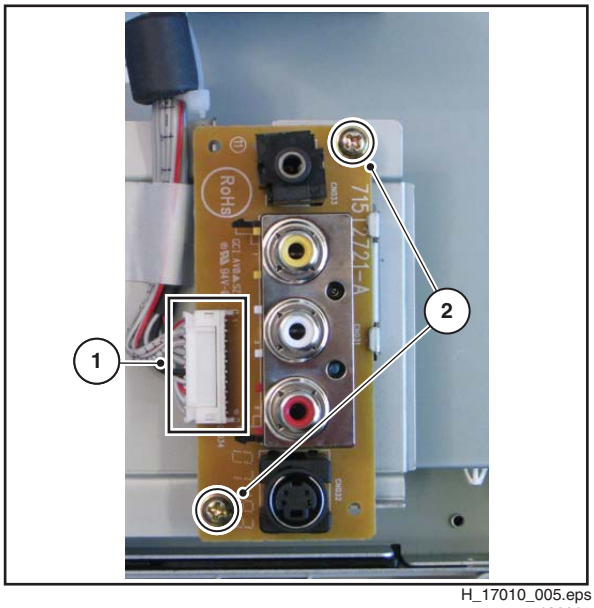
Figure 4-7 Keyboard Control Panel removal

4.3.6 SIde I/O Panel removal

Refer to figure “Side I/O Panel removal” for details.
1. Disconnect the connector [1] from the panel.
2. Remove the fixation screws [2].
3. Take out the panel.

When defective, replace the whole unit.



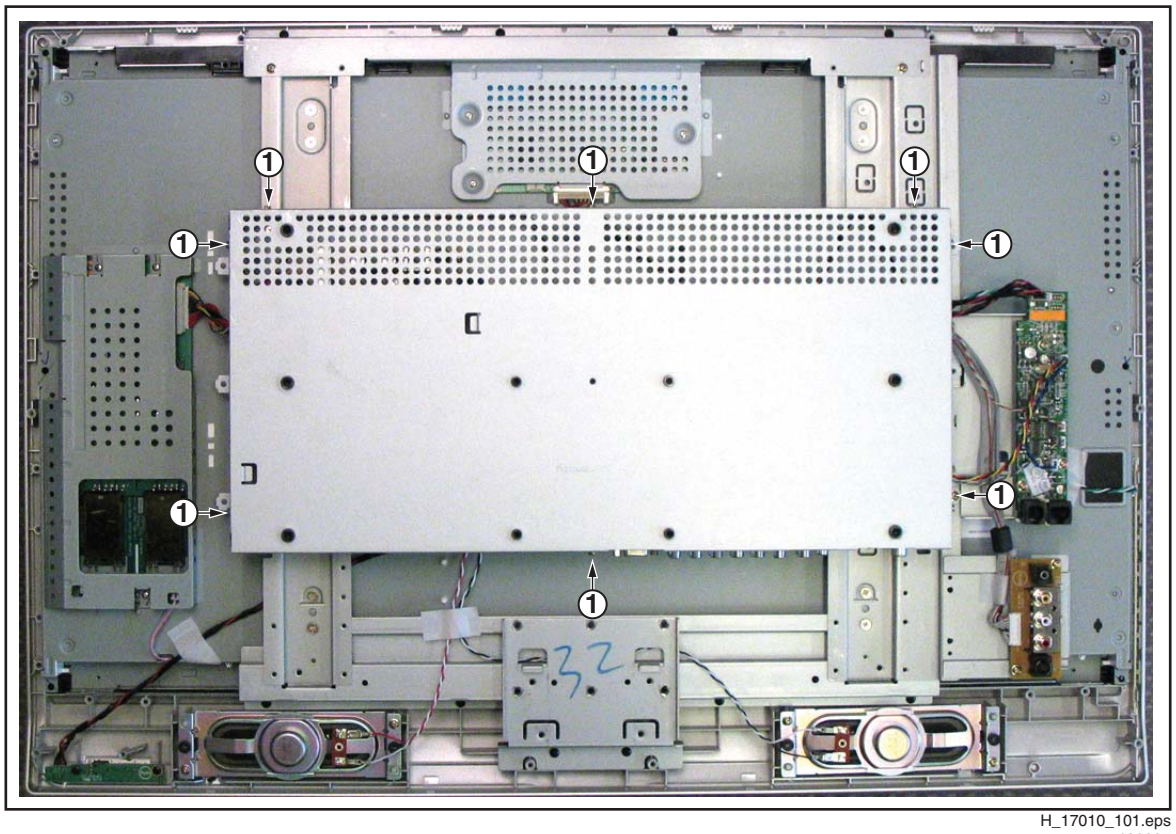
H_17010_005.eps
180907

Figure 4-8 Side I/O Panel removal

4.3.7 SSB and PSU cover removal

Refer to figure “SSB and PSU Cover removal” for details.

1. Remove the fixation screws [1].
2. Take of the cover.



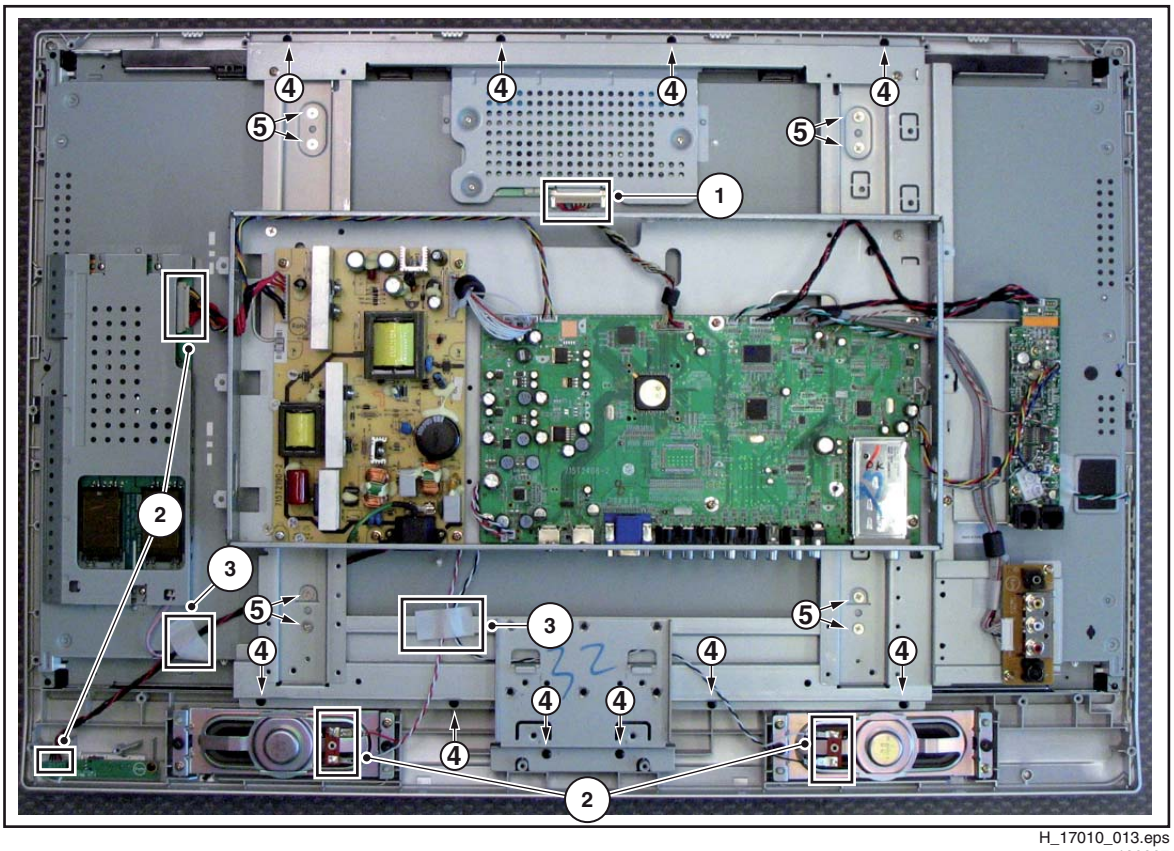
H_17010_101.eps
190907

Figure 4-9 SSB and PSU Cover removal

4.3.8 Subframe removal

Refer to figure “Subframe removal” for details.

1. Unplug the LVDS connector [1]. **Caution:** be careful, as this is a very fragile connector!
2. Disconnect the connectors [2] from the panels and speakers.
3. Release the tape [3].
4. Remove the fixation screws [4] and [5].
5. Lift the subframe from the cabinet.



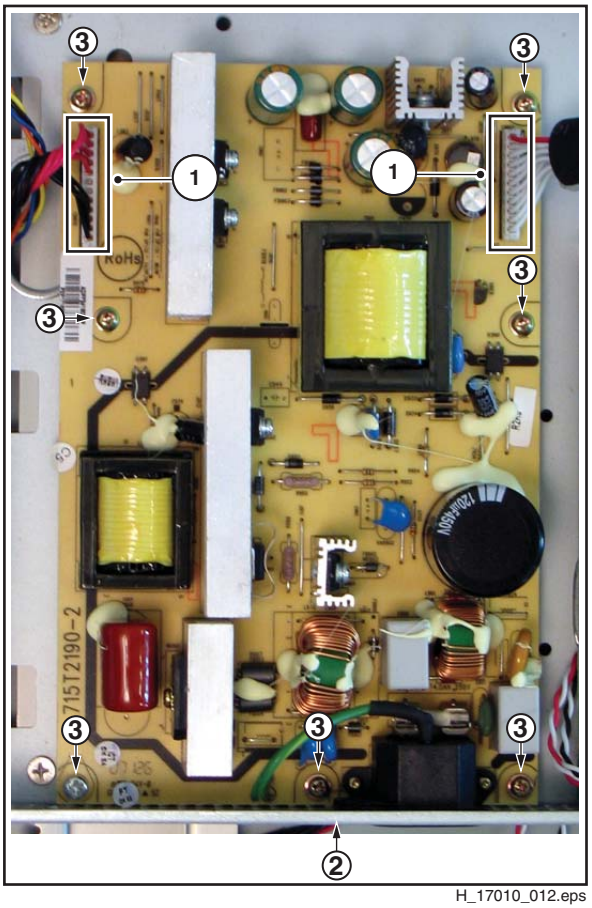
H_17010_013.eps
180907

Figure 4-10 Subframe removal

4.3.9 PSU removal

Refer to figure “PSU removal” for details.

1. Unplug the connectors [1].
2. Remove the fixation screw [2] from the bottom side of the connector plate.
3. Remove the fixation screws [3].
4. Lift out the panel.



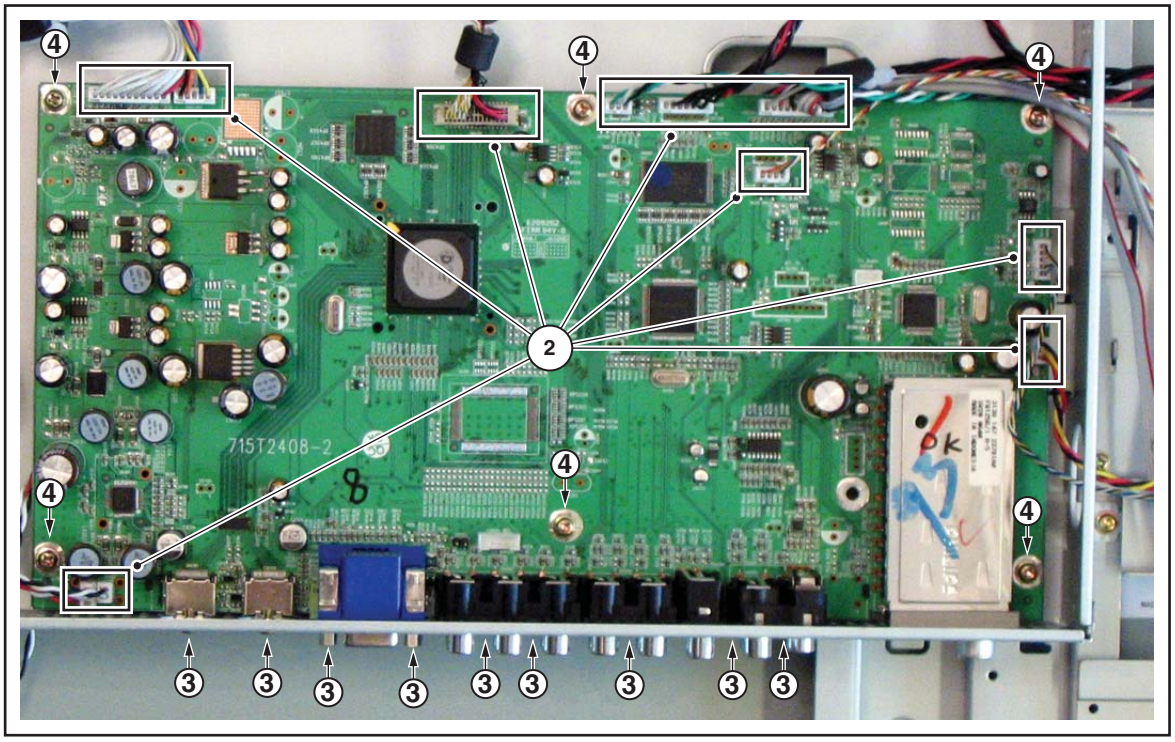
H_17010_012.eps
180907

Figure 4-11 PSU removal

4.3.10 Small Signal Board (SSB)

Caution: it is mandatory to remount all different screws at their original position during re-assembly. Failure to do so may result in damaging the SSB.
Refer to figures “SSB connector plate” and “SSB removal” for details.

1. Unplug the LVDS connector [1]. **Caution:** be careful, as this is a very fragile connector!
2. Unplug the connectors [2].
3. Remove the screws [3] to release the board from the connector plate.
4. Remove the screws [4].
5. Carefully lift the SSB at the top and take it out of the set.

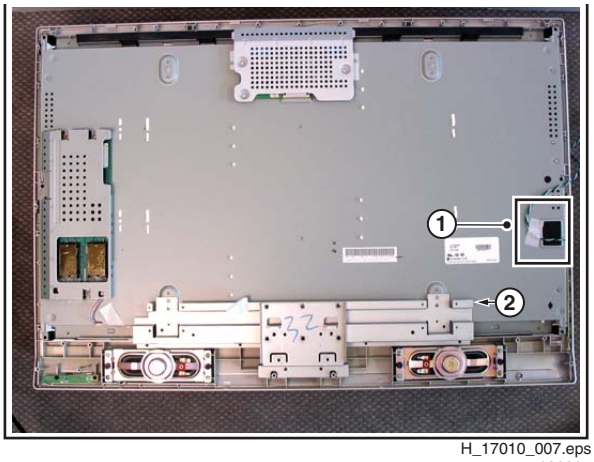


H_17010_008.eps
180907

Figure 4-12 SSB removal

4.3.11 LCD Panel

Important: Be sure to work in a dust free environment during the following activities. In addition, the use of (fabric) hand gloves is advised.



H_17010_007.eps
180907

Figure 4-13 LCD panel removal

1. Place the TV set face down on the foam bars. Place the bars at the edges of the set, so they will support the front frame and not only the glass plate!
2. Remove subframe as described earlier.
3. Release the taped wire [1].
4. Lift the support rim from the set [2].

4.4 Set Re-assembly

To re-assemble the whole set, execute all processes in reverse order.

Notes:

- While re-assembling, make sure that all cables are placed and connected in their original position. See figure “Cable dressing”.
- Take care that all glued parts have been properly refixed with appropriate glue again.
- Pay special attention not to damage the EMC foams at the SSB shielding. Check that EMC foams are put correctly on their places.

5. Service Modes, Error Codes, and Fault Finding

Index of this chapter:
5.1 Service Modes
5.2 Repair Flow Chart
5.3 Software Upgrading

5.1 Service Modes

The Customer Service Mode (CSM) is used for communication between the call centre and the customer, while the Factory Mode offers several features for the service technician.

This chassis also offers the option of using ComPair, a hardware interface between a computer and the TV chassis. It offers the abilities of structured troubleshooting, error code reading, and software version read-out for all chassis. *Minimum requirements for ComPair:* a Pentium processor, a Windows OS, and a CD-ROM drive (see also paragraph “ComPair”).

5.1.1 TV mode Switching

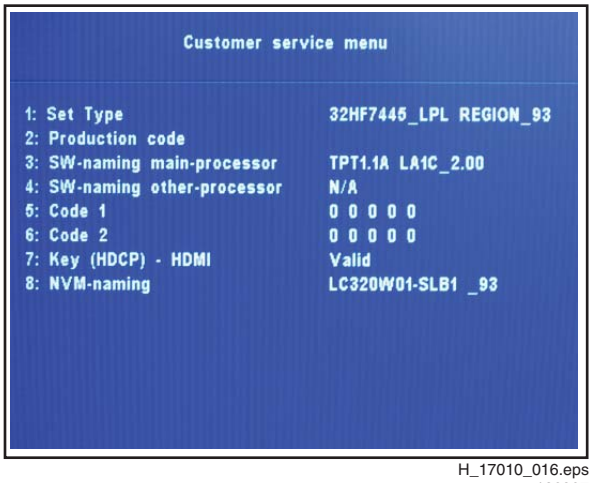
The iTV set can be switched between “iTV” and “normal TV” mode (or vice versa) with the iTV setup remote RC2573/01. To do this; press 024995 <M> (M=menu). Follow the message shown on the screen.

5.1.2 Customer Service Mode (CSM)

Purpose
The Customer Service Mode shows error codes and information on the TV’s operation settings. The call centre can instruct the customer (by telephone) to enter CSM in order to identify the status of the set. This helps the call centre to diagnose problems and failures in the TV set before making a service call.
The CSM is a read-only mode; therefore, modifications are not possible in this mode.

How to enter
To enter CSM, press the following key sequence on the remote control transmitter: “**123654**” (do not allow the OSD display to time out between entries while keying the sequence).

Upon entering the Customer Service Mode, the following screen will appear:


Customer service menu
1: Set Type 32HF7445_LPL REGION_93
2: Production code
3: SW-naming main-processor TPT1.1A LA1C_2.00
4: SW-naming other-processor N/A
5: Code 1 0 0 0 0 0
6: Code 2 0 0 0 0 0
7: Key (HDCP) - HDMI Valid
8: NVM-naming LC320W01-SLB1 _93

H_17010_016.eps
180907

Figure 5-1 CSM menu

Menu Explanation
1. Set type, this value gives the complete type number.
2. Displays the production code.
3. Displays the software version in from the main processor
4. Displays the software version of the optional other processor.
5. Code 1 displays the last 5 logged errors.
6. Code 2 displays the first 5 logged errors.
7. Displays the validiti of the HDMI HDCP key.
8. Displays the NVM version.

Error Codes
The error code buffer contains all defected errors since the last time the buffer was erased. The buffer is written from left to right, new errors are logged at the left side, and all other errors shift one position to the right. When an error occurs, it is added to the list of errors, provided the list is not full. When an error occurs and the error buffer is full, then the new error is not added, and the error buffer stays intact (history is maintained), except when the error is a protection error. To prevent that an occasional error stays in the list forever, the error is removed from the list after more than 50 hours of operation. When multiple errors occur (errors occurred within a short time span), there is a high probability that there is some relation between them.

Table 5-1 Error Codes

Error Code	Event
0x01	Audio decoder error
0x02	I^2C bus error
0x03	Tuner error
0x04	NVRAM Error
0x05	Scaler error

How to exit
To exit CSM, use one of the following methods:
- Press the MENU, STATUS (or EXIT/INFO/[i+]), or POWER button on the remote control transmitter.
- Press the POWER button on the television set.

5.1.3 Factory Mode

How to Enter
To enter the factory mode, use the following method:
- Press the Menu button on the standard remote control.
- Press the following key sequence on the remote control transmitter: **“062596”** directly followed by the MENU button (do not allow the OSD display to time out between entries while keying the sequence).
- Then with the cursor down key scroll under the install line. Now no the Panel description is highlighted. Then press the cursor right button to enter.

After entering the Factory Mode, the following screen is visible, with panel information at the bottom line in the menu.

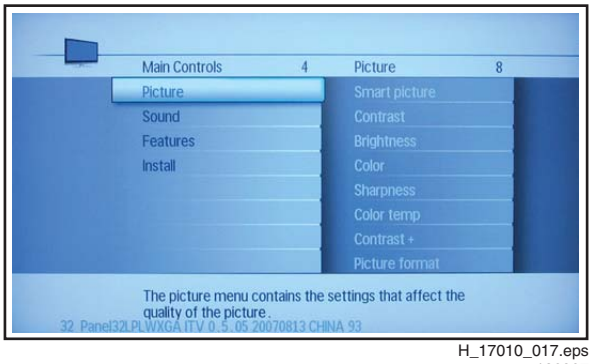


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Figure 5-2 Factory menu [1/3]

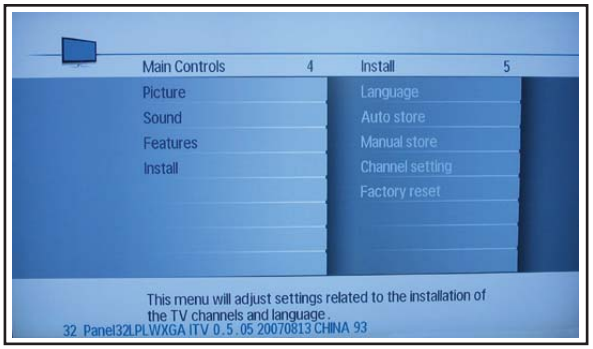

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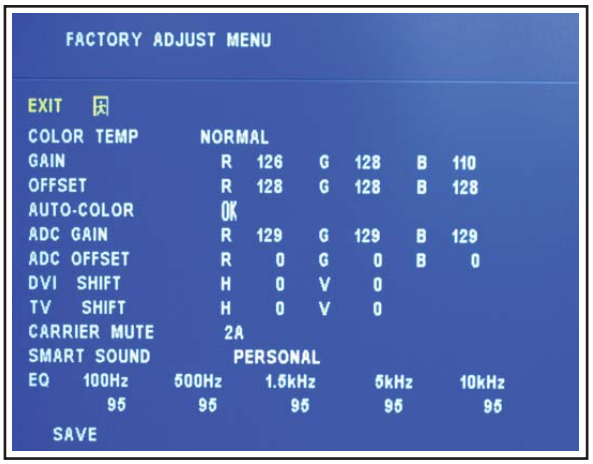
Figure 5-3 Factory menu [2/3]


FACTORY ADJUST MENU
EXIT
COLOR TEMP NORMAL
GAIN R 126 G 128 B 110
OFFSET R 128 G 128 B 128
AUTO-COLOR OK
ADC GAIN R 129 G 129 B 129
ADC OFFSET R 0 G 0 B 0
DVI SHIFT H 0 V 0
TV SHIFT H 0 V 0
CARRIER MUTE 2A
SMART SOUND PERSONAL
EQ 100Hz 500Hz 1.5kHz 5kHz 10kHz
95 95 95 95 95
SAVE

H_17010_018.eps
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Figure 5-4 Factory menu [3/3]

How to Navigate

When you press the up/down cursor keys you can move around the items, with the Right cursor you can select an item and enter it. With the jaMENU button on the remote control, the set will switch on the normal user menu in the Factory mode.

How to Exit

Switch the set to STANDBY by pressing the POWER button on the remote control transmitter.
If you turn the television set off by removing the AC Power (i.e., unplugging the television) or by using the POWER button on the TV set, the television set will remain in SDM when AC Power is re-applied, and the error buffer is not cleared.

5.1.4 Hotel Mode

Before the hotel mode can be activated, the set needs to be switched into normal consumer mode first. Use an ITV setup remote control (type: RC2573/01, 12NC: 3139 228 88782) and key in the code “024995” directly followed by the “M” (Menu) key. The test messages “TV is Now In MTV Mode” and “Please Do A Cold Start!” appear on the screen.
Disconnect the set for a few seconds from the mains supply, and reconnect the set to again. After switching the set “on”, the set is in normal consumer mode (MTV-Mode).

After repair, put the set into hotel mode (iTV-Mode) again. Enter the same code on the remote control as described above. The text messages “TV Is Now In ITV Mode” and “Please Do A Cold Start!” appears. Disconnect the set for a few seconds from the mains supply, and reconnect it to the mains supply again. After switching “on”, the set is in normal consumer mode (MTV-Mode).

5.2 Repair Flow Chart

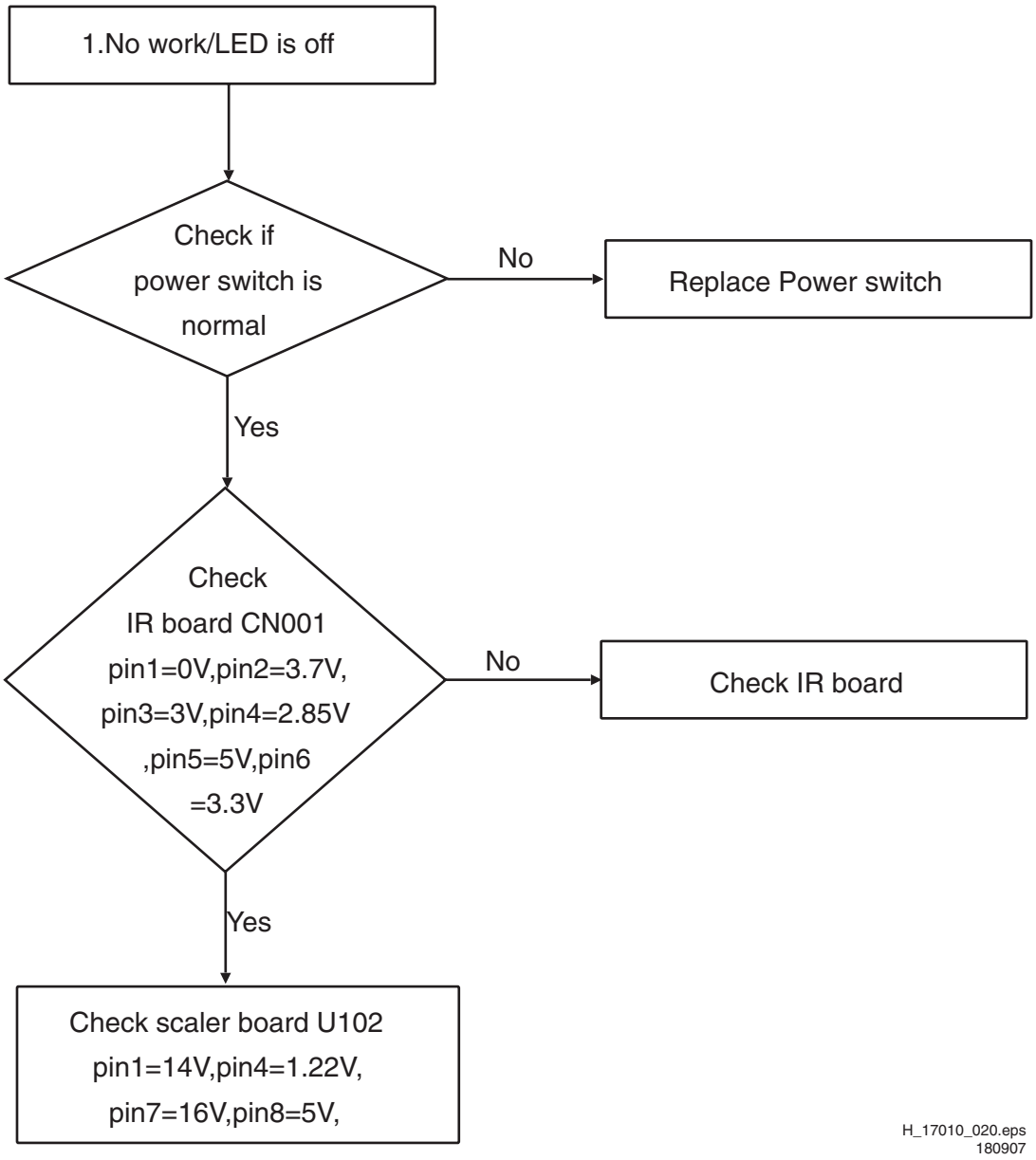

Figure 5-5 Start-up flowchart

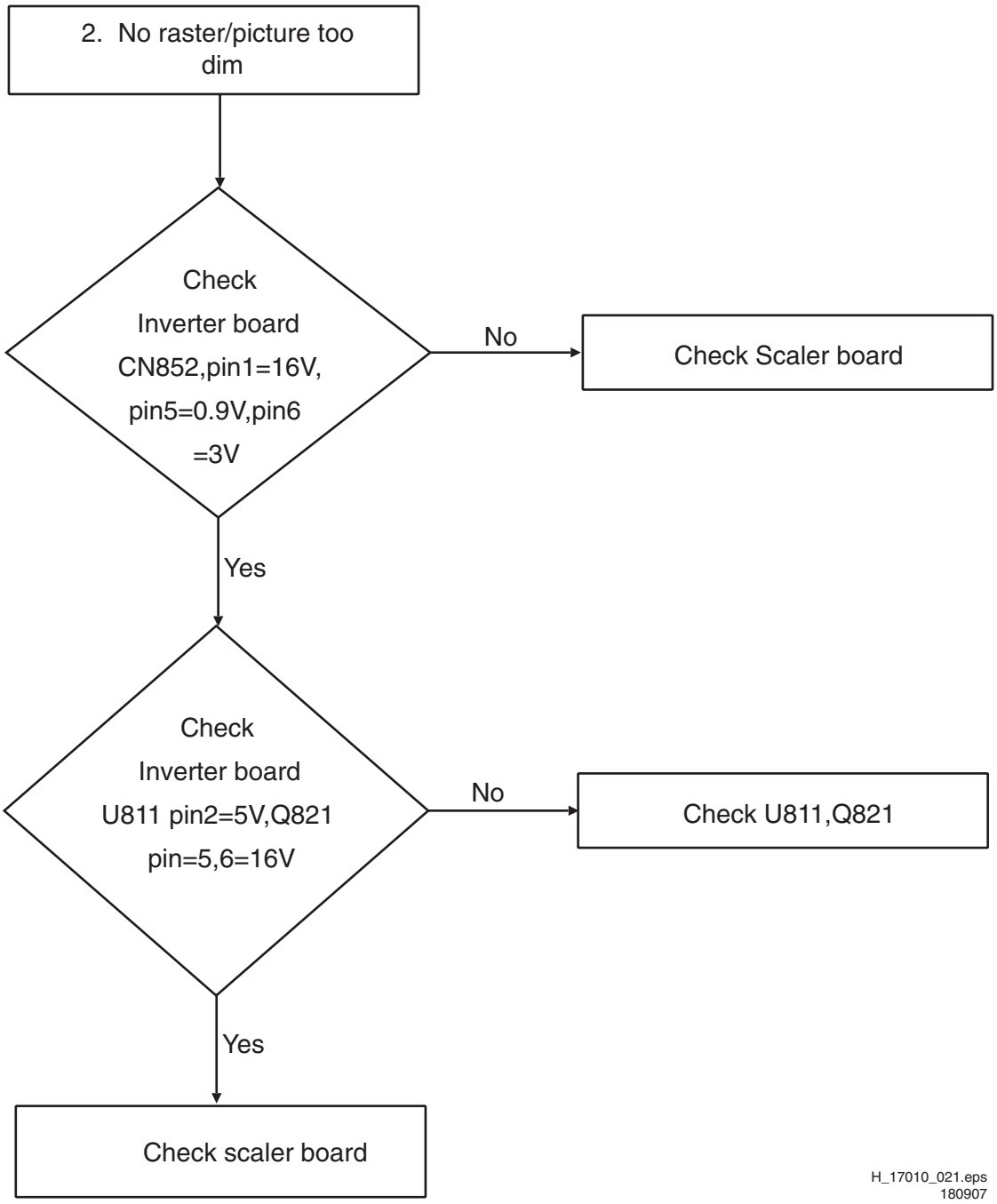

Figure 5-6 No Raster flowchart

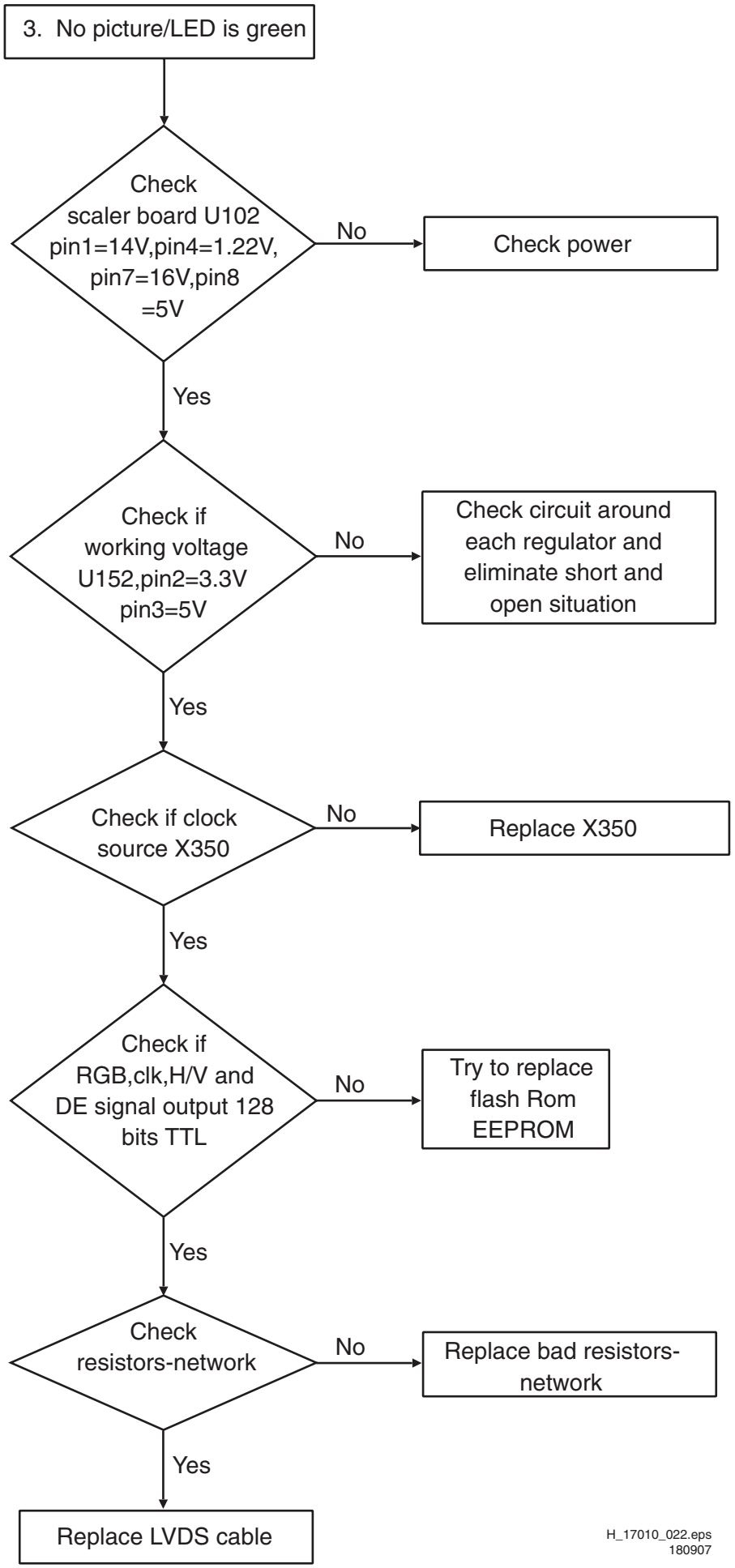

Figure 5-7 No Picture flowchart

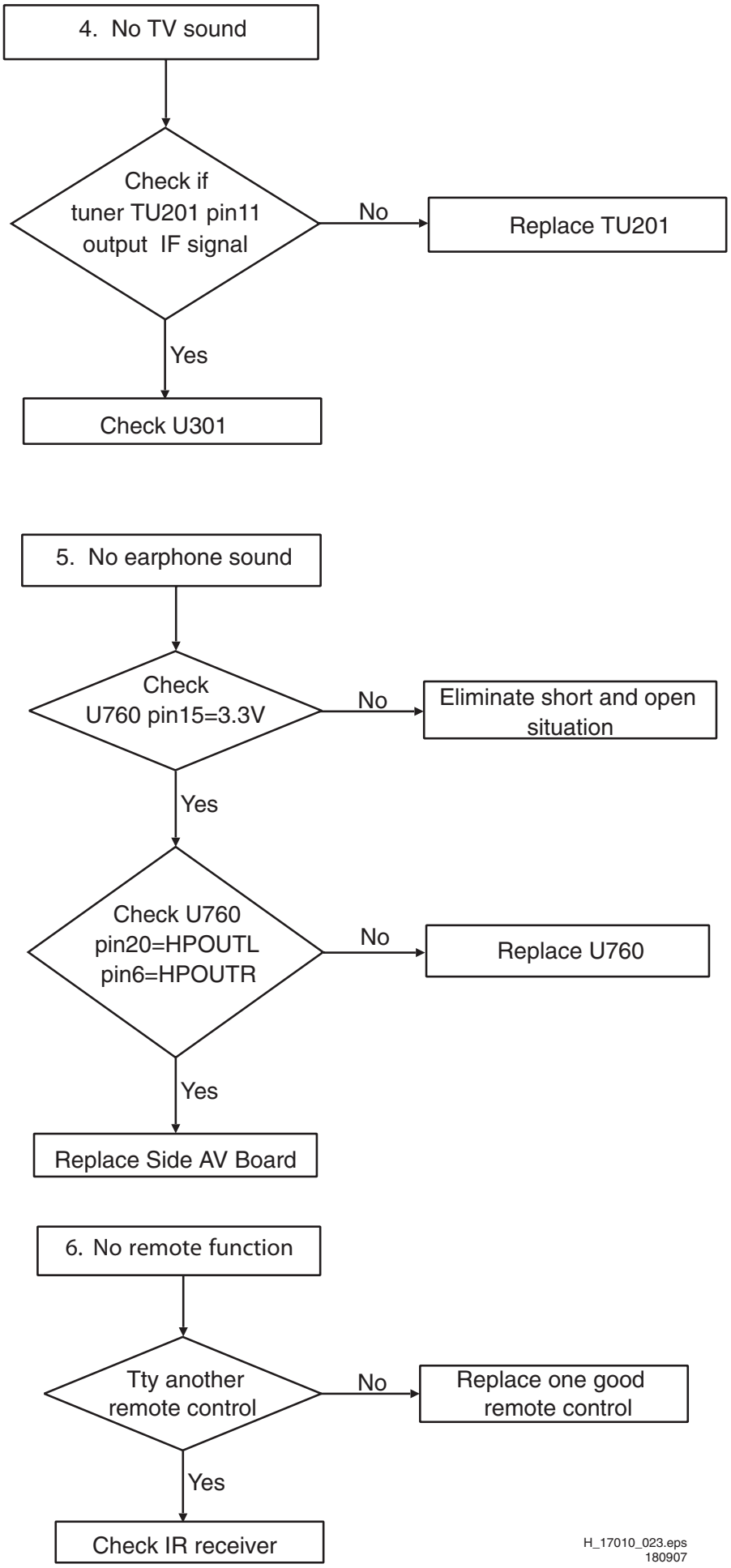

Figure 5-8 No Sound flowchart

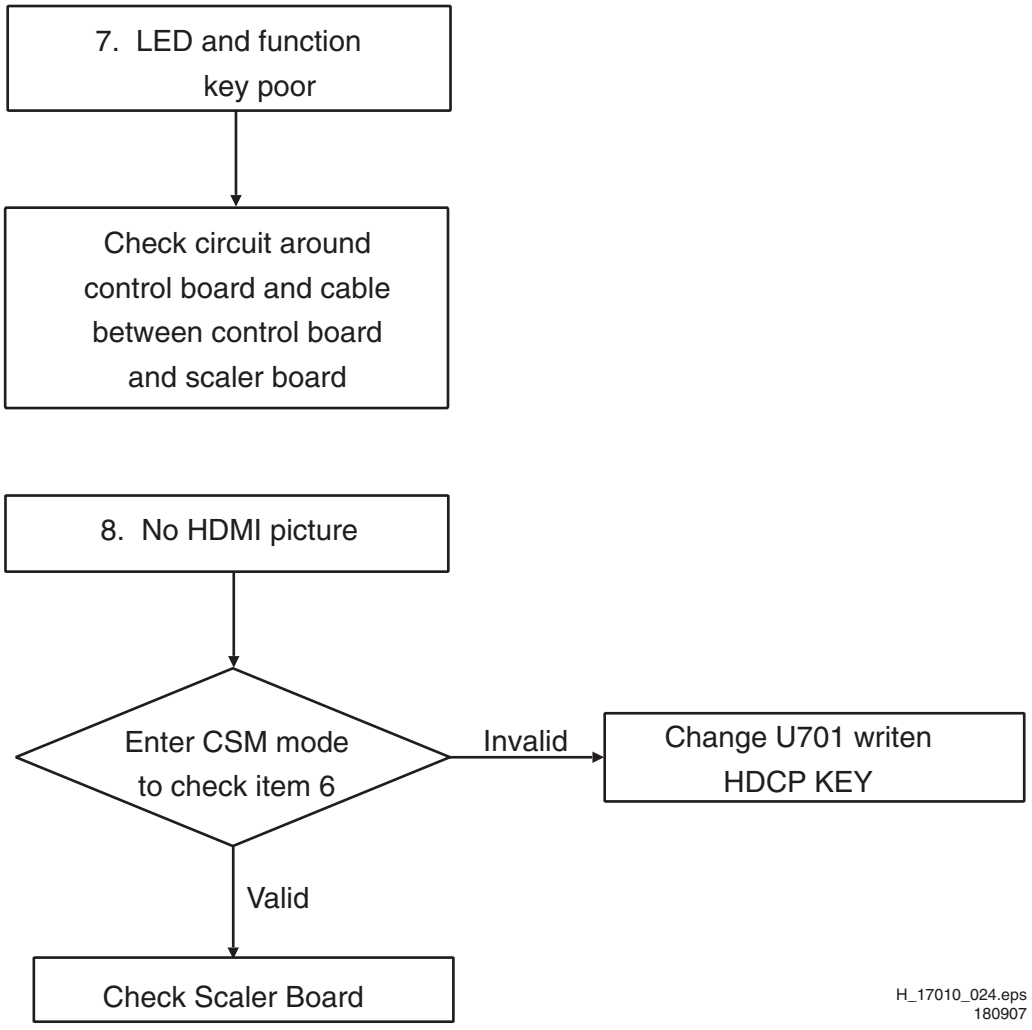
7. LED and function key poor
Check circuit around control board and cable between control board and scaler board
8. No HDMI picture
Enter CSM mode to check item 6
Invalid
Change U701 writen HDCP KEY
Valid
Check Scaler Board
H_17010_024.eps
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Figure 5-9 LED and function keys flowchart

5.3 Software Upgrading

5.3.1 Compair Service Tool

Introduction

ComPair (Computer Aided Repair) is a Service tool for Philips Consumer Electronics products. and offers the following:

1. ComPair helps you to quickly get an understanding on how to repair the chassis in a short and effective way.
2. ComPair allows very detailed diagnostics and is therefore capable of accurately indicating problem areas. You do not have to know anything about I2C or UART commands yourself, because ComPair takes care of this.
3. ComPair speeds up the repair time since it can automatically communicate with the chassis (when the uP is working) and all repair information is directly available.
4. ComPair features TV software up possibilities.

Specifications

ComPair consists of a Windows based fault finding program and an interface box between PC and the (defective) product. The (new) ComPair II interface box is connected **to the PC** via an USB cable. For the TV chassis, the ComPair interface box and the TV communicate via a bi-directional cable via the service connector(s).

How to Connect

This is described in the ComPair chassis fault finding database.

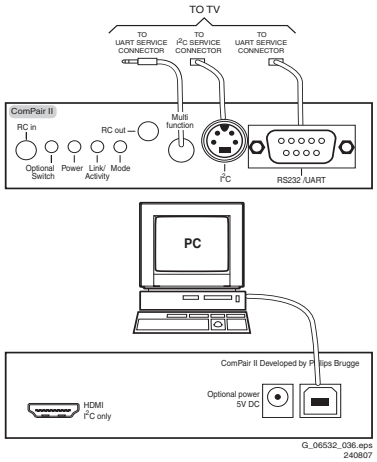


Figure 5-10 ComPair II interface connection

Caution: It is compulsory to connect the TV to the PC as shown in the picture above (with the ComPair interface in between), as the ComPair interface acts as a level shifter. If one connects the TV directly to the PC (via UART), ICs will be blown!

How to Order

ComPair II order codes:

- ComPair II interface: 3122 785 91020.
- ComPair32 CD (update): 3122 785 60160.
- ComPair interface cable: 3122 785 90004.
- ComPair interface extension cable: 3139 131 03791.
- ComPair UART interface cable: 3122 785 90630.

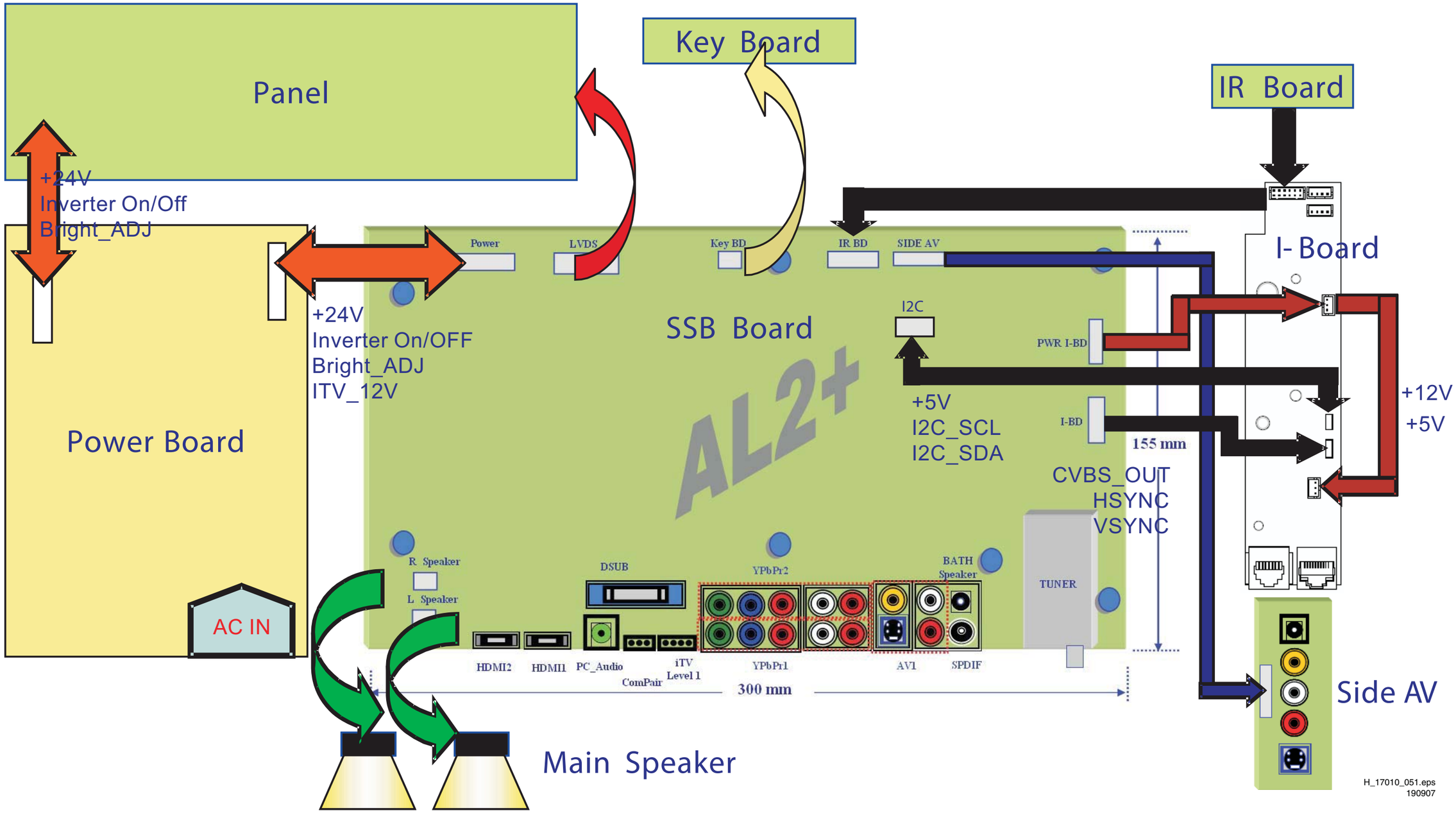
Note: If you encounter any problems, contact your local support desk

LVDS Tool

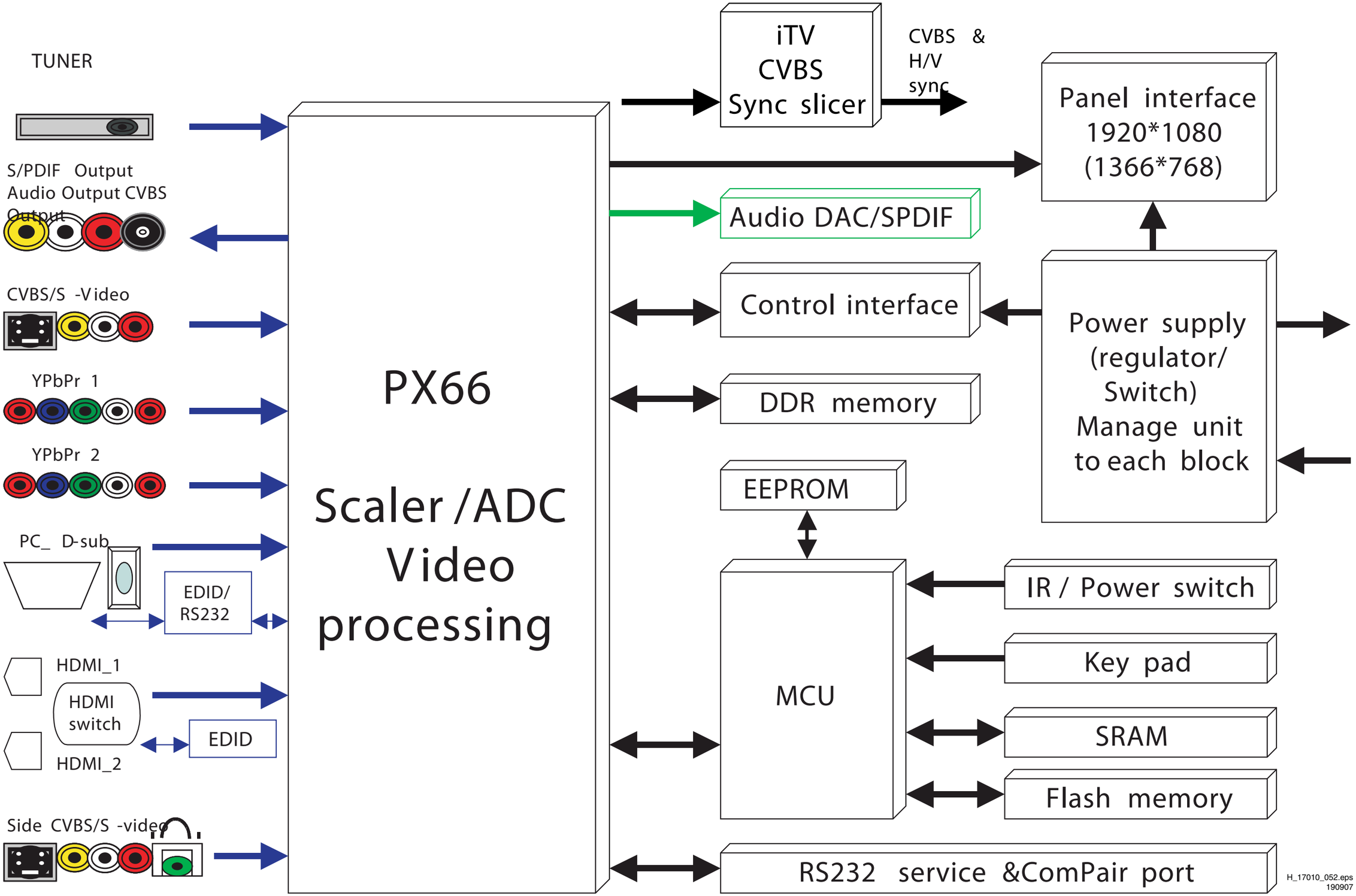
Support of the LVDS Tool has been discontinued.

6. Block Diagrams, Test Point Overviews, and Waveforms

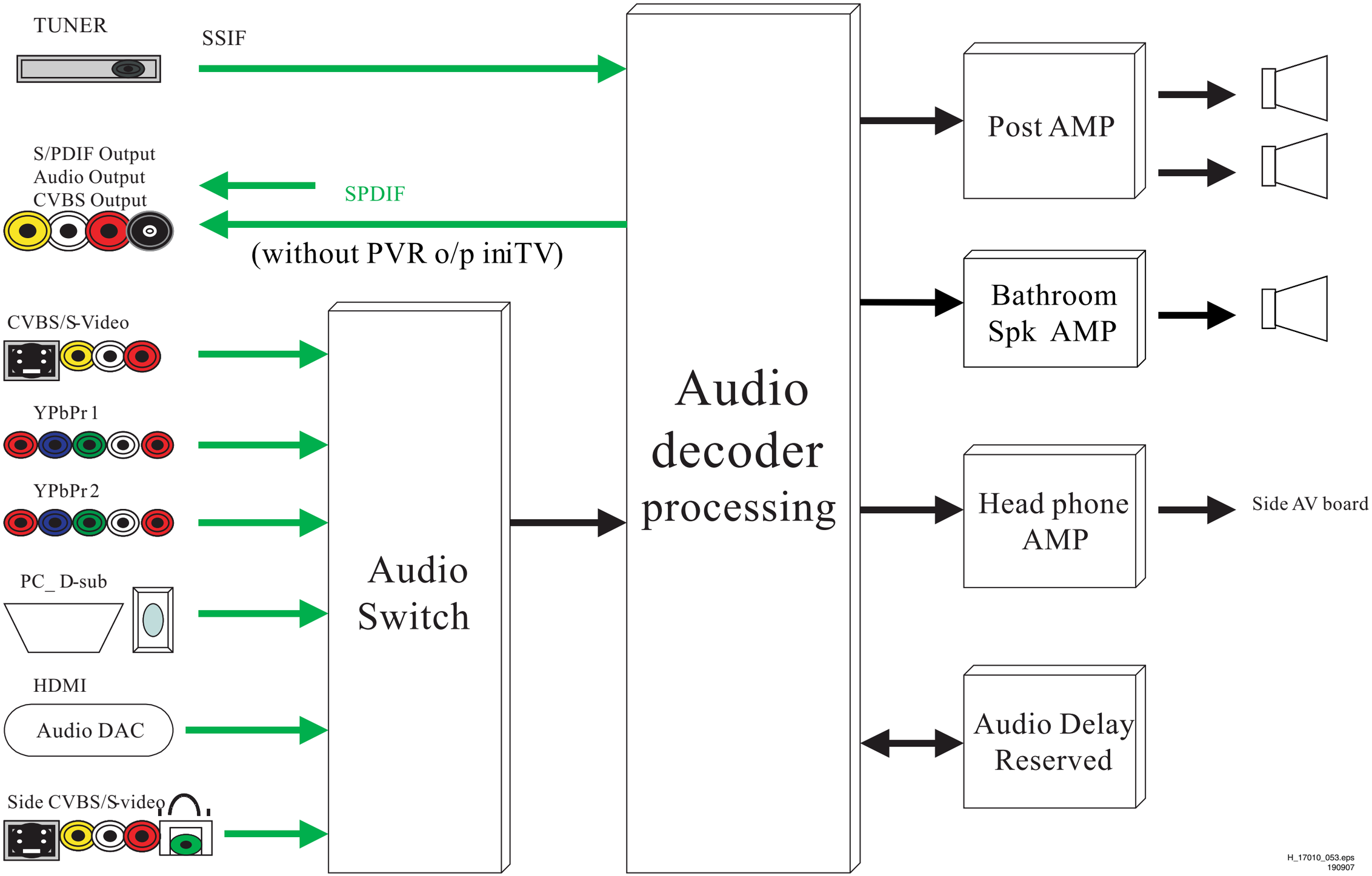
Wiring Diagram



Block Diagram Video

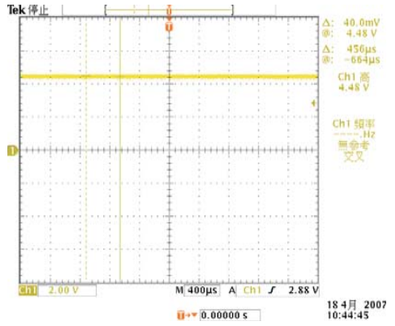


Block Diagram Audio

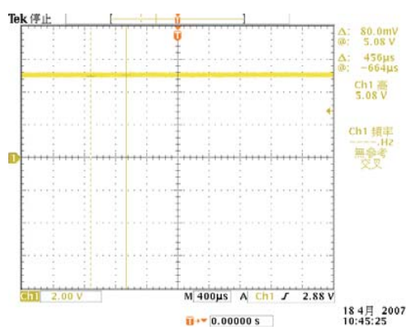


Waveforms TV & Scaler Board (Part 1)

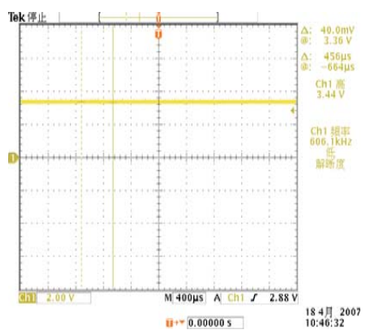
1、DDCW P_PC(U1102 Pin 7)



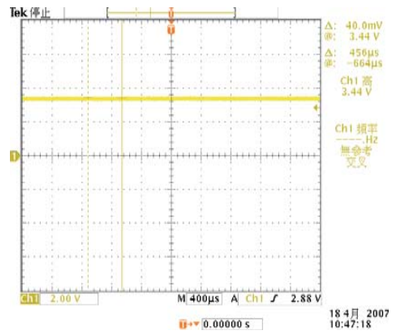
2、+5V_Tuner(U1201 Pin 3)



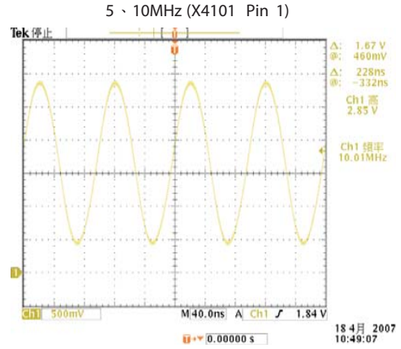
3、CPU_RESET(U4103 Pin 2)



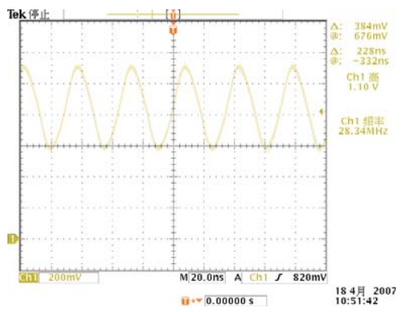
4、E_PAGE(U4101 Pin 7)



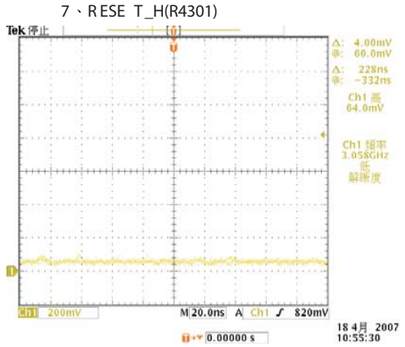
5、10MHz (X4101 Pin 1)



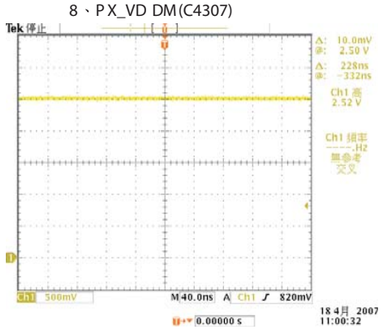
6、28.322MHz (X4201 Pin 1)



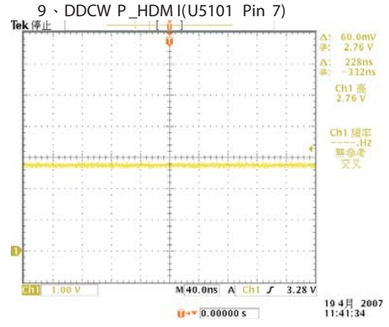
7、RESE T_H(R4301)



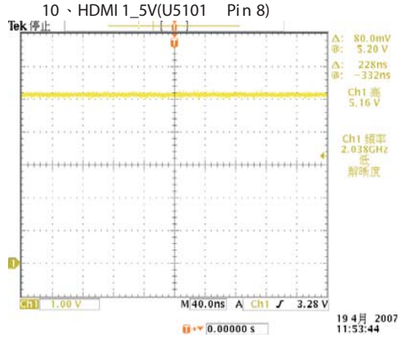
8、PX_VDDM(C4307)



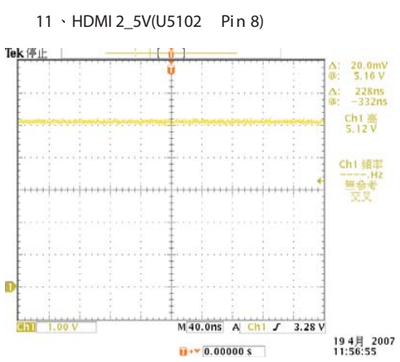
9、DDCW P_HDMI(U5101 Pin 7)



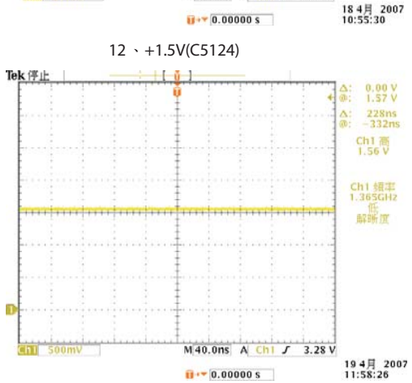
10、HDMI 1_5V(U5101 Pin 8)



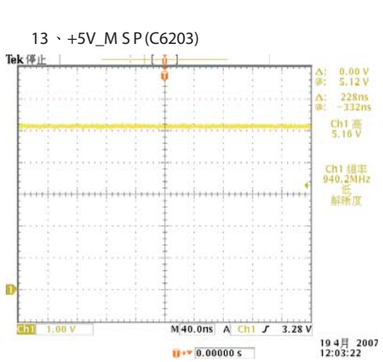
11、HDMI 2_5V(U5102 Pin 8)



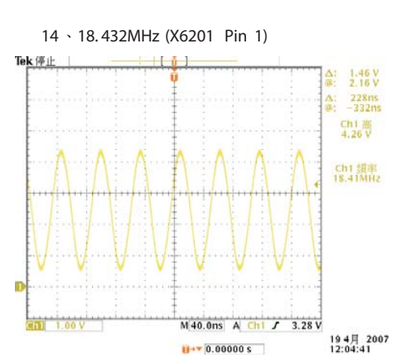
12、+1.5V(C5124)



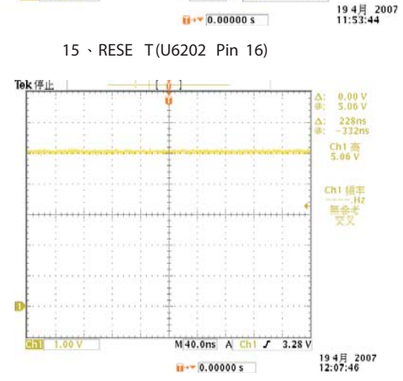
13、+5V_MSP(C6203)



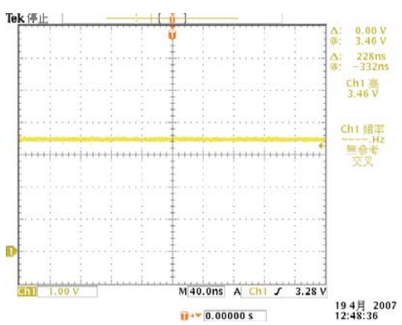
14、18.432MHz (X6201 Pin 1)



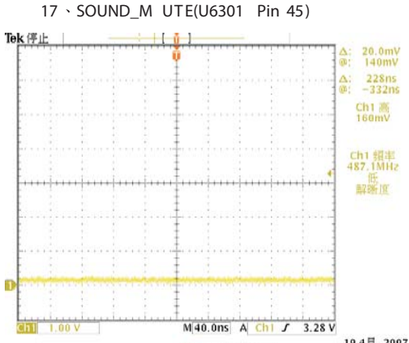
15、RESE T(U6202 Pin 16)



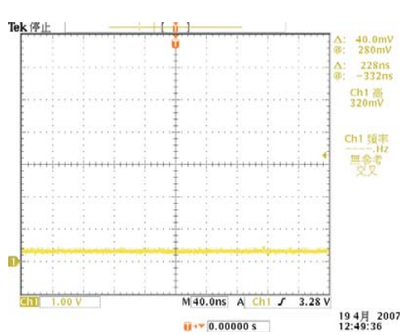
16、SOUND_EN(U6301 pin 44)



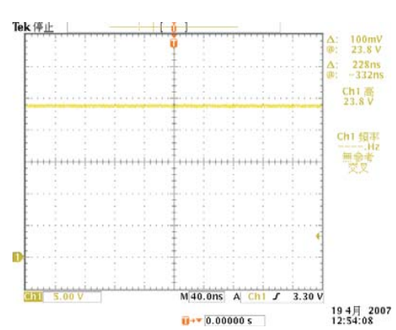
17、SOUND_MUTE(U6301 Pin 45)



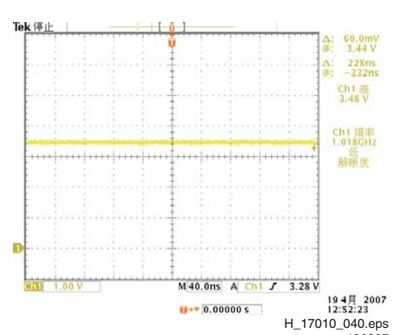
18、FAULT(U6301 Pin 46)



19、+24V_AMP(C6365)



20、POWER_ON(R7126)



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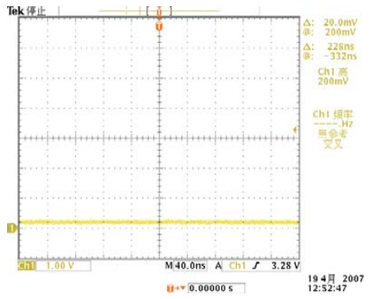
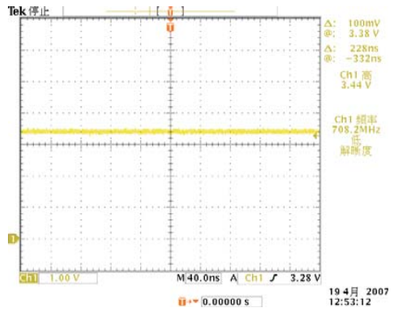
Waveforms TV & Scaler Board (Part 2)

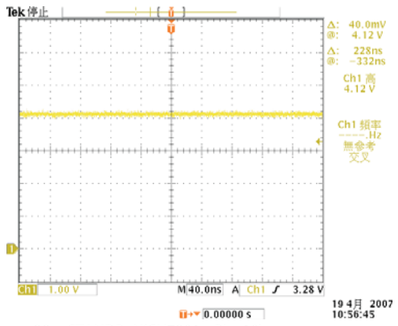
21 、LED_SEL_OUT (R7119)



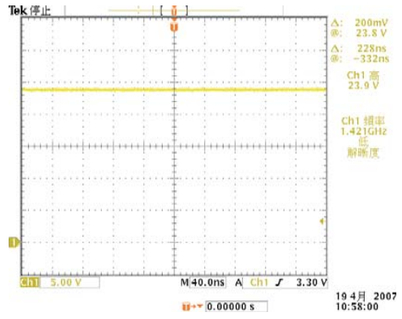
22 、PC_TV_LED (R7120)



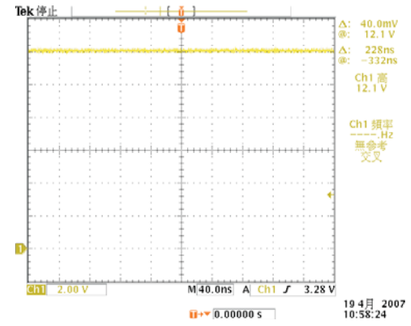
23 、REMO TE _3V(C7113)



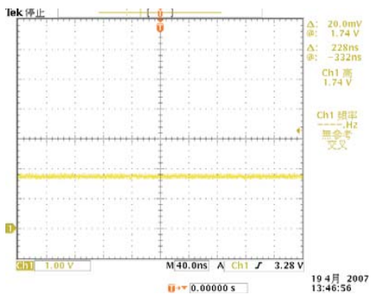
24 、+24V(C7202)



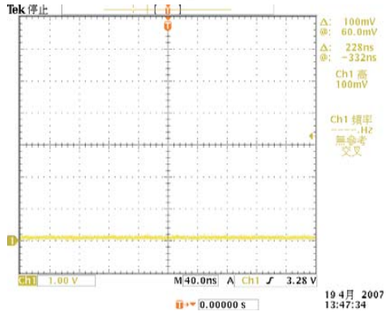
25 、+12V(C7208)



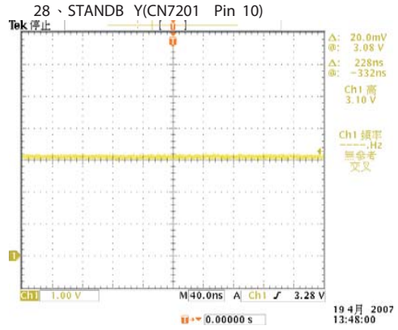
26 、BRIGHT_A DJ (CN7201 Pin 5)



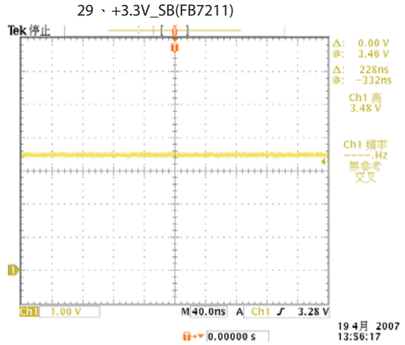
27 、INVER TE R_ON_OFF(R7211)



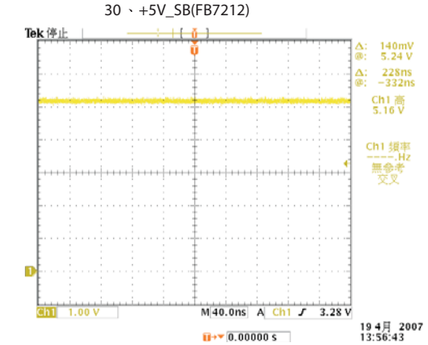
28 、STANDB Y(CN7201 Pin 10)



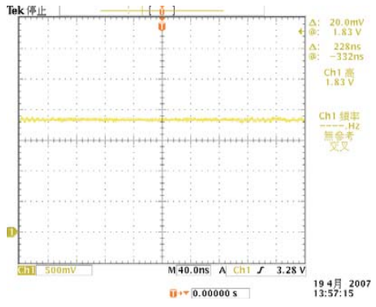
29 、+3.3V_SB(FB7211)



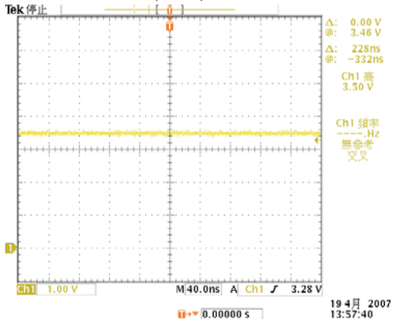
30 、+5V_SB(FB7212)



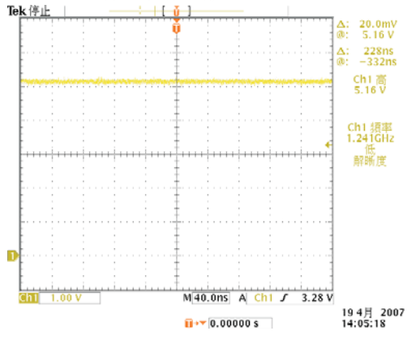
31 、PX_VD18(FB7213)



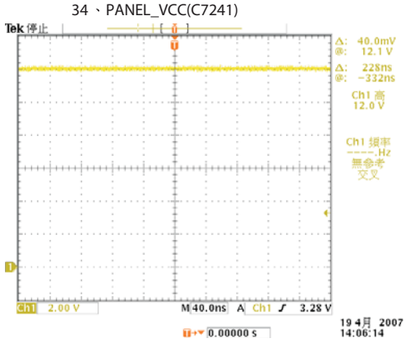
32 、+3.3V(C7217)



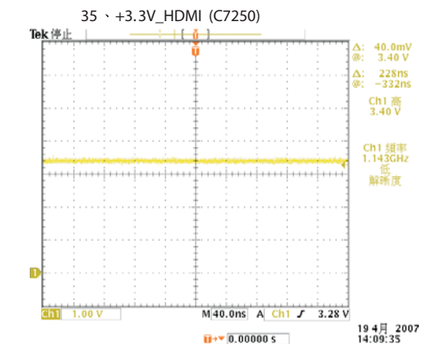
33 、+5V(C7229)



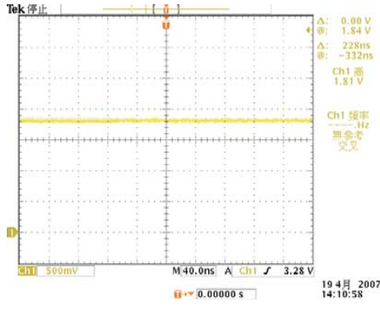
34 、PANEL_VCC(C7241)



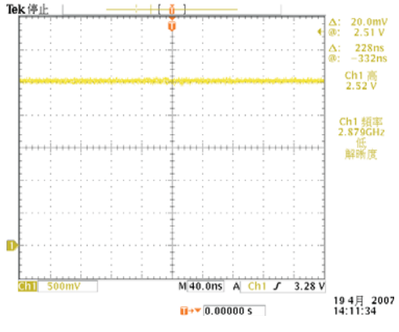
35 、+3.3V_HDMI (C7250)



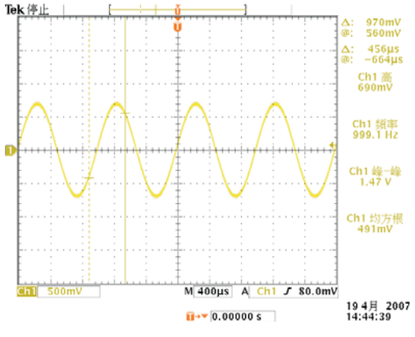
36 、PX_1. 8V (C7238)



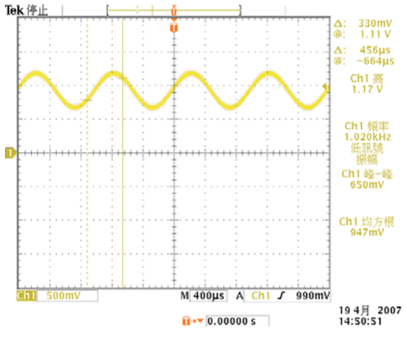
37 、PX_VDDM(C7213)



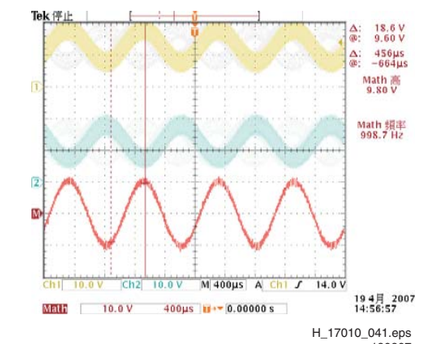
38 、COMP1_L(FB1213)



41 、AL_DACM(R6309)



42 、LOUT+/ -(CN6303 Pin 2,1)



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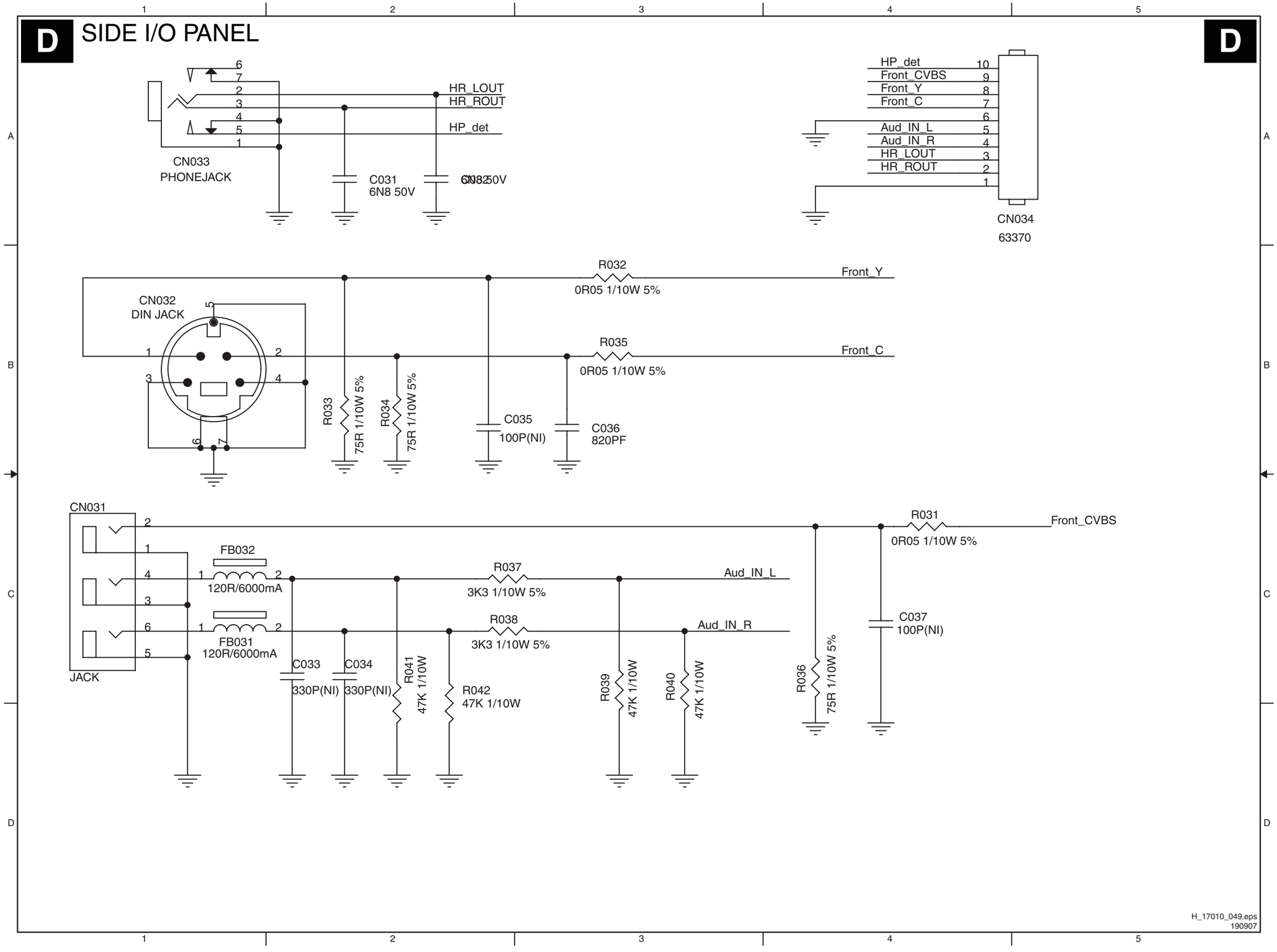
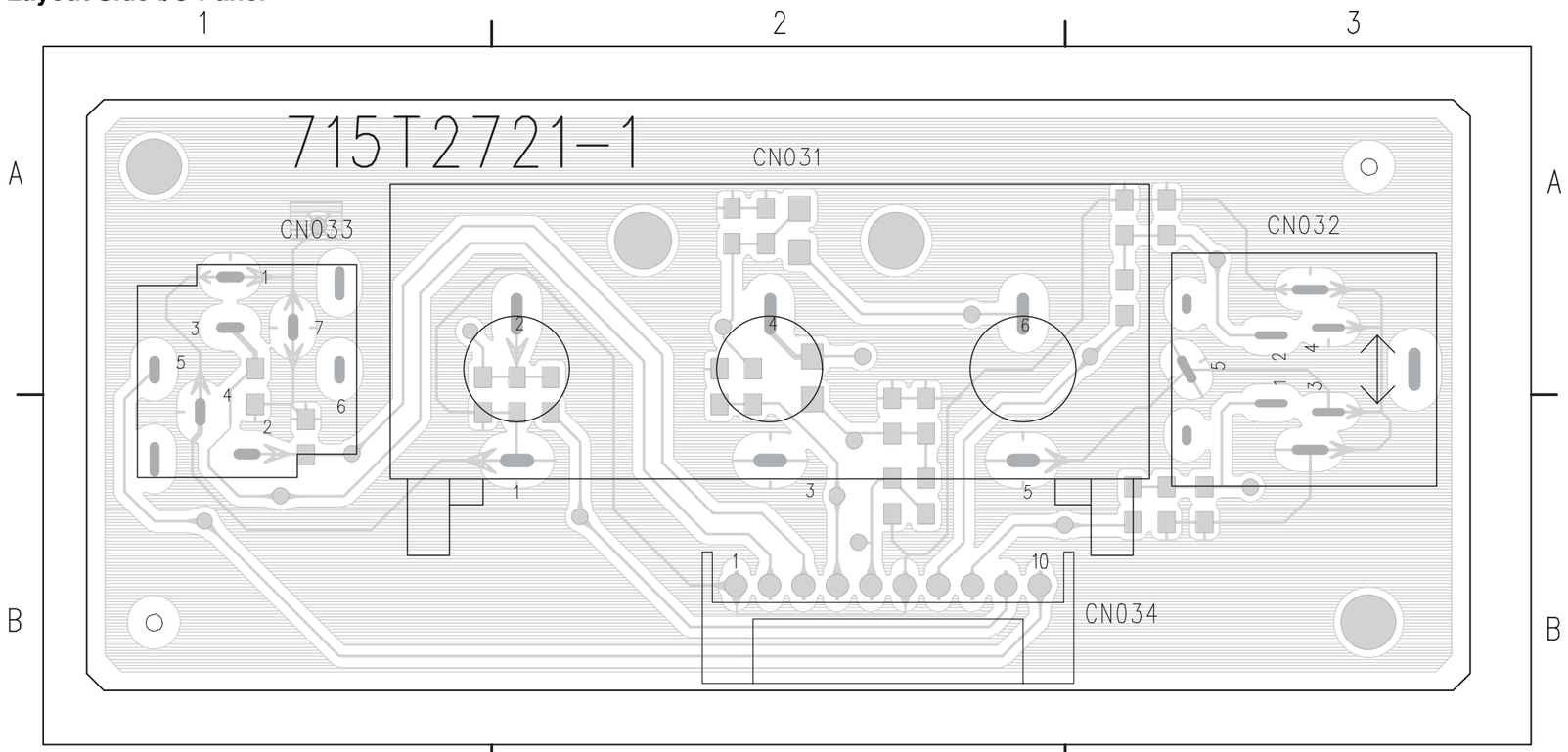
7. Circuit Diagrams and PWB Layouts

Side I/O Panel

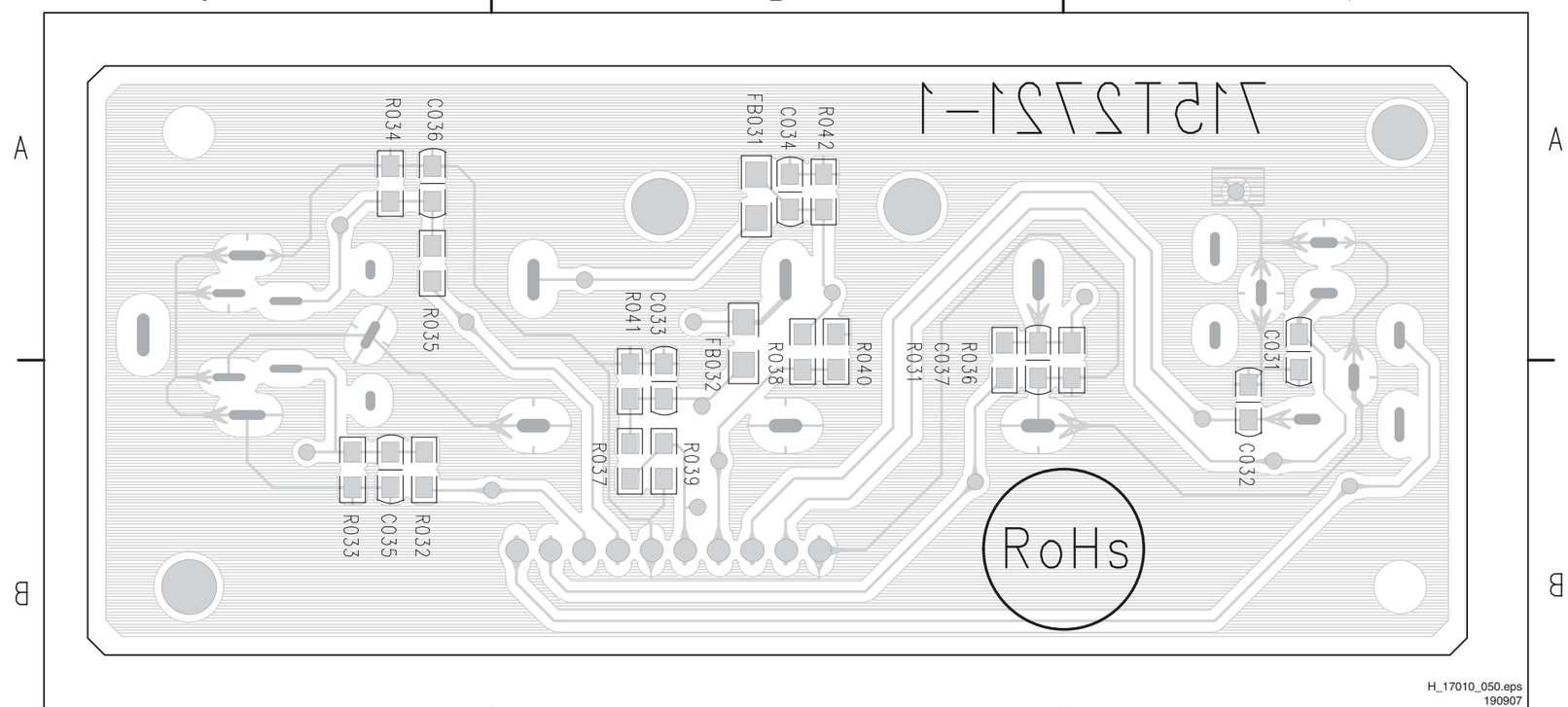


CN031	C1
CN032	B1
CN033	A1
CN034	A4
C031	A2
C032	A2
C033	C2
C034	C2
C035	B2
C036	B3
C037	C4
FB031	C1
FB032	C1
R031	C4
R032	B3
R033	B2
R034	B2
R035	B3
R036	C4
R037	C2
R038	C2
R039	C3
R040	C3
R041	C2
R042	C2

Layout Side I/O Panel



CN031 A2
CN032 A3
CN033 A1
CN034 B2



C031 A1
C032 B1
C033 B2
C034 A2
C035 B3
C036 A3
C037 A2
FB031 A2
FB032 A2
R031 A2
R032 B3
R033 B3
R034 A3
R035 A3
R036 A1
R037 B2
R038 A2
R039 B2
R040 A2
R041 B2
R042 A2

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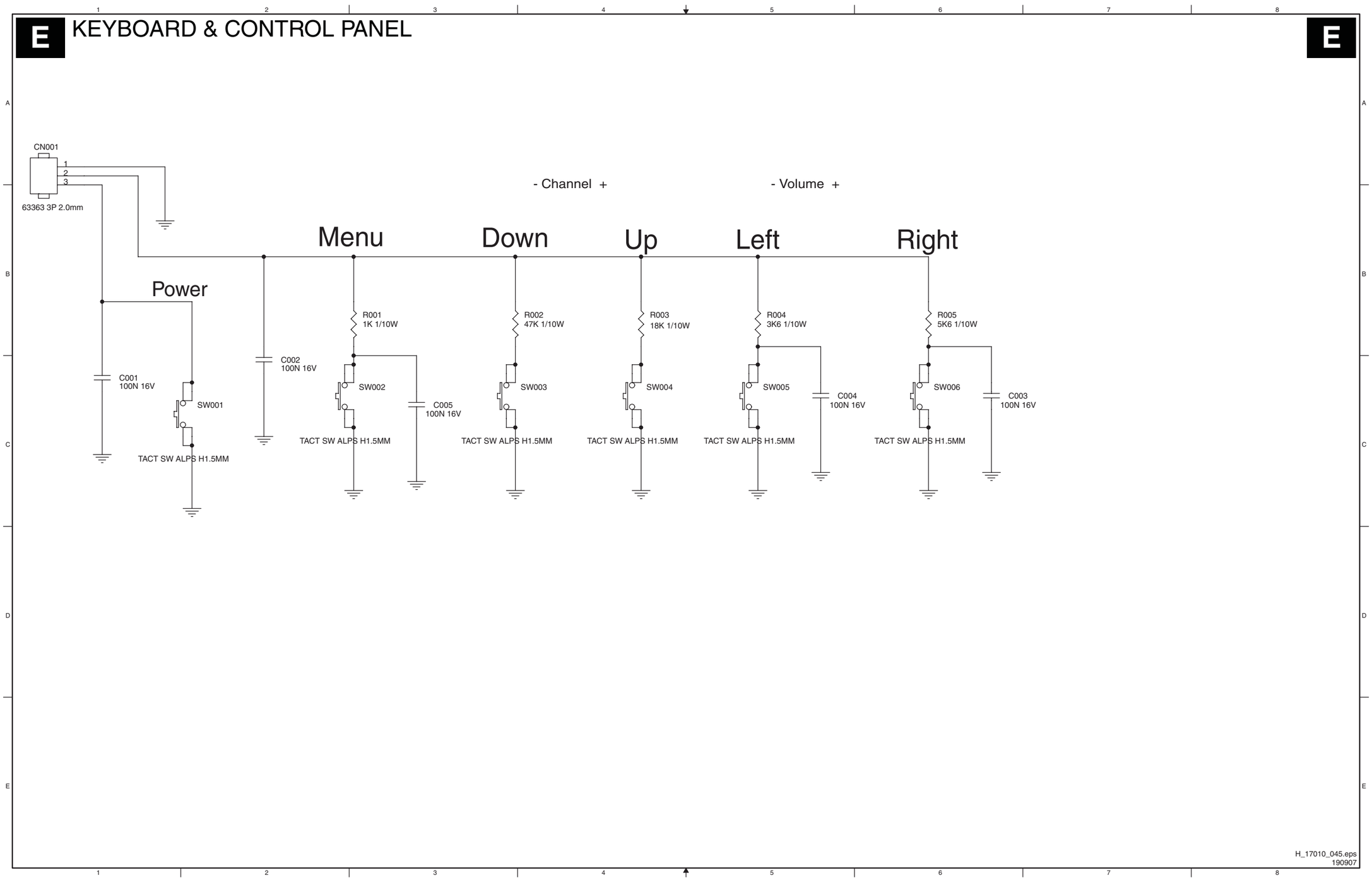
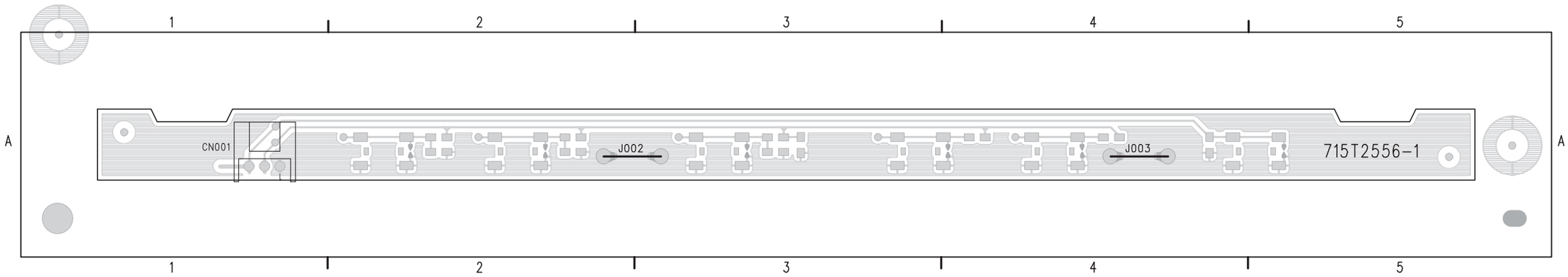
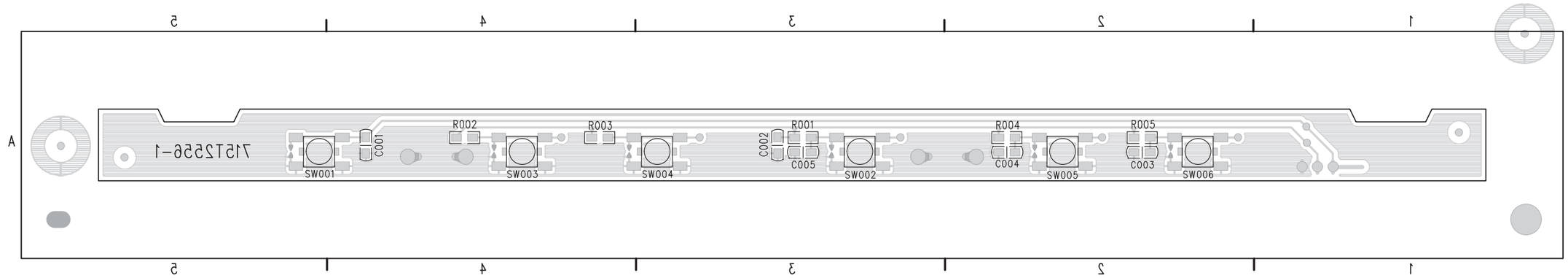
Keyboard & Control Panel



Layout Keyboard & Control Panel



CN001 A1
J002 A2
J003 A4



C001 A4
C002 A3
C003 A2
C004 A2
C005 A3
R001 A3
R002 A4
R003 A4
R004 A2
R005 A2
SW001 A5
SW002 A3
SW003 A4
SW004 A3
SW005 A2
SW006 A2

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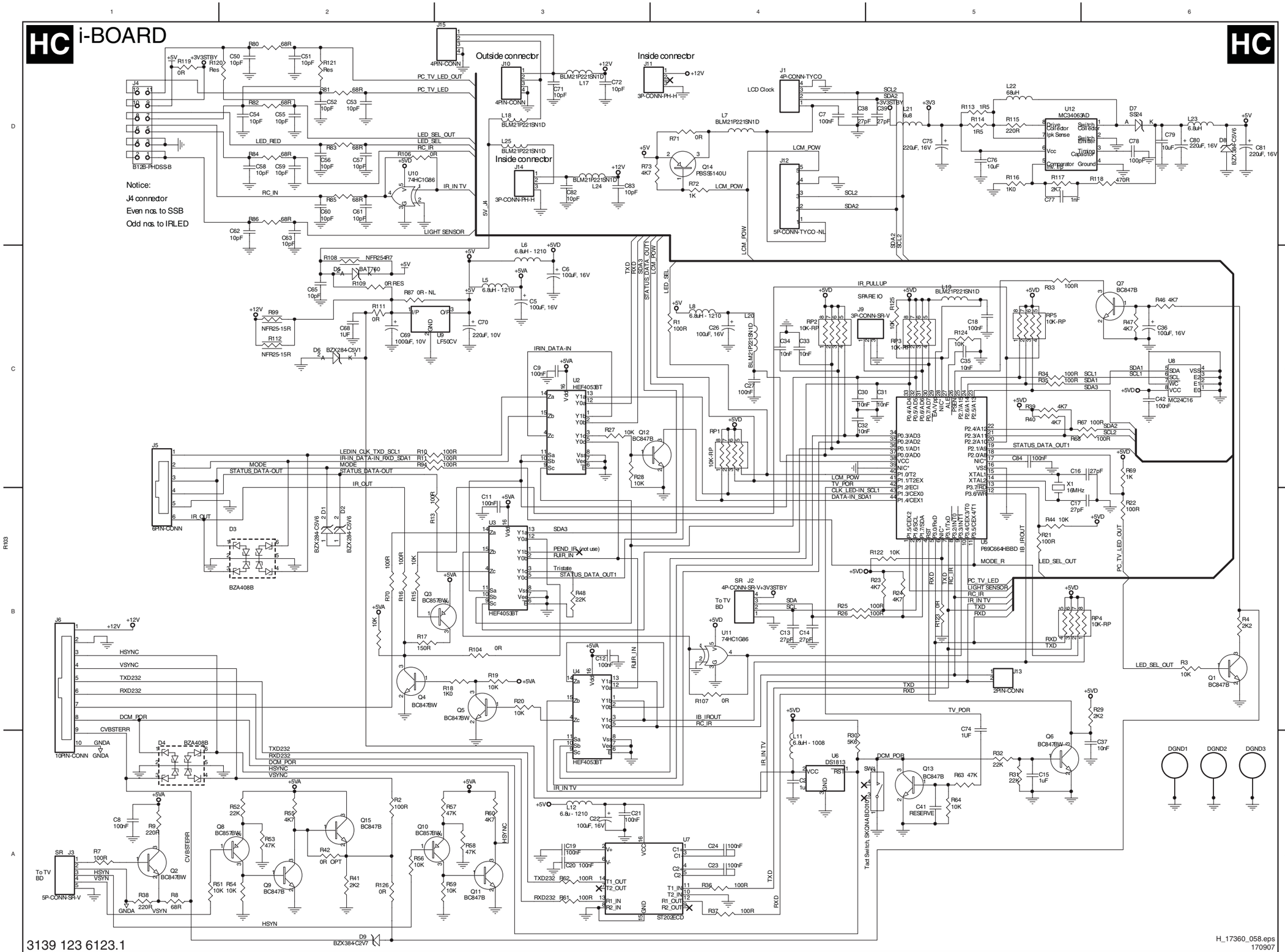
i-Board


HC i-BOARD
HC
Outside connector
Inside connector
Inside connector
LCD Clock
LCM_POW
SCL2
SDA2
3V3STBY
Notice:
J4 connector
Even nos. to SSB
Odd nos. to IRLED
PC_TV_LED_OUT
PC_TV_LED
LED_SEL_OUT
LED_SEL
RC_IR
LED_RED
RC_IN
IR_IN TV
LIGHT SENSOR
5V_J4
IRIN_DATA-IN
IR_PULLUP
SPARE IO
LEDIN_CLK_TXD_SCL1
IR-IN_DATA-IN_RXD_SDA1
MODE
STATUS_DATA-OUT
IR_OUT
STATUS_DATA_OUT1
PEND_IR (not use)
RJIR_IN
Tristate
IB_IROUT
MODE_R
LED_SEL_OUT
PC_TV_LED_OUT
TV_POR
DCM_POR
HSYNC
VSYNC
TXD232
RXD232
CVBSERR
HSYN
TXD
RXD
SDA1
SCL1
SDA3
Test Switch SKCNAB
To TV BD
5P-CONN-SR-V
10PIN-CONN GNDA
6PIN-CONN
BZA408B
DGND1
DGND2
DGND3
3139 123 6123.1
H_17360_058.eps
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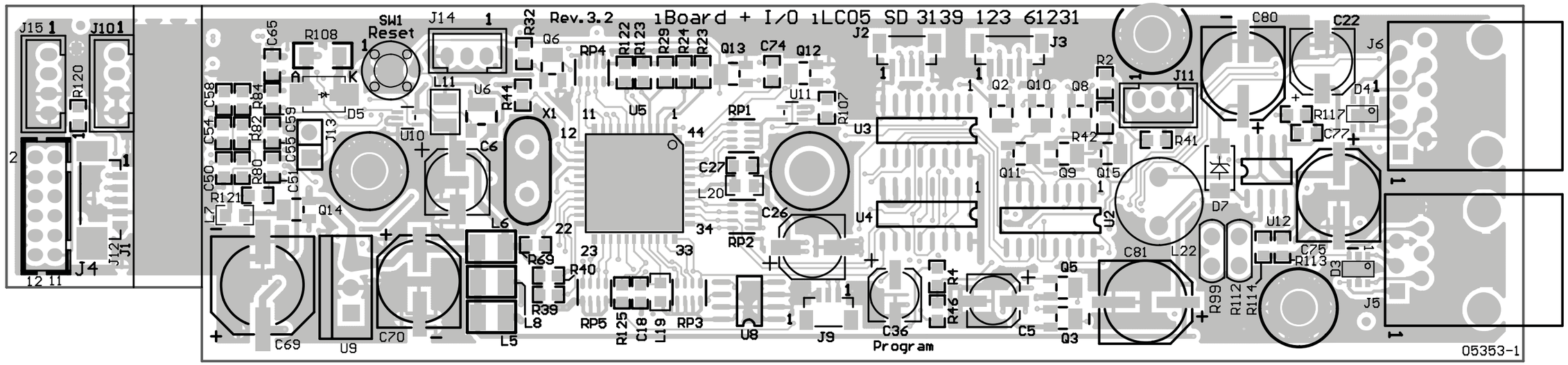
Layout i-Board (Top Side)



3139 123 6123.1

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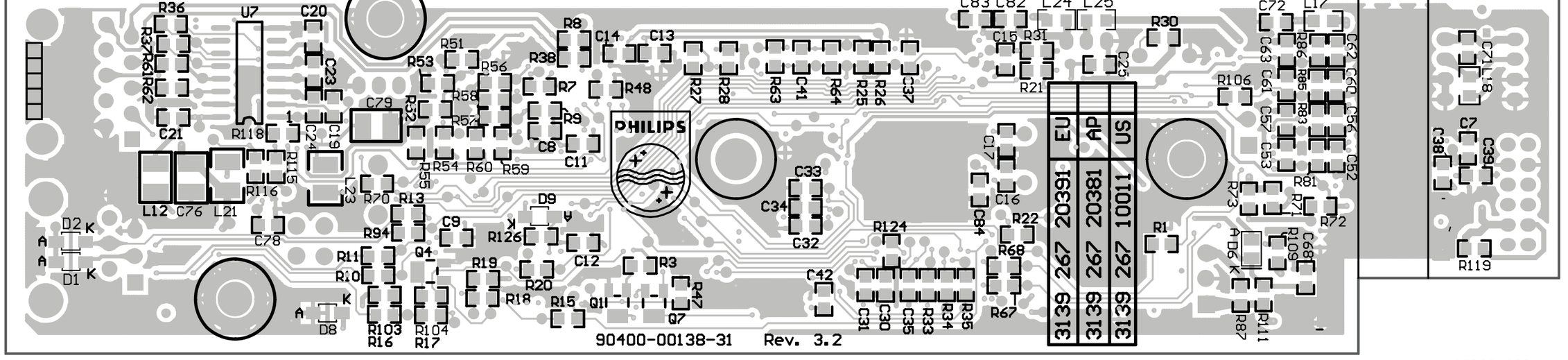
Layout i-Board (Bottom Side)



3139 123 6123.1

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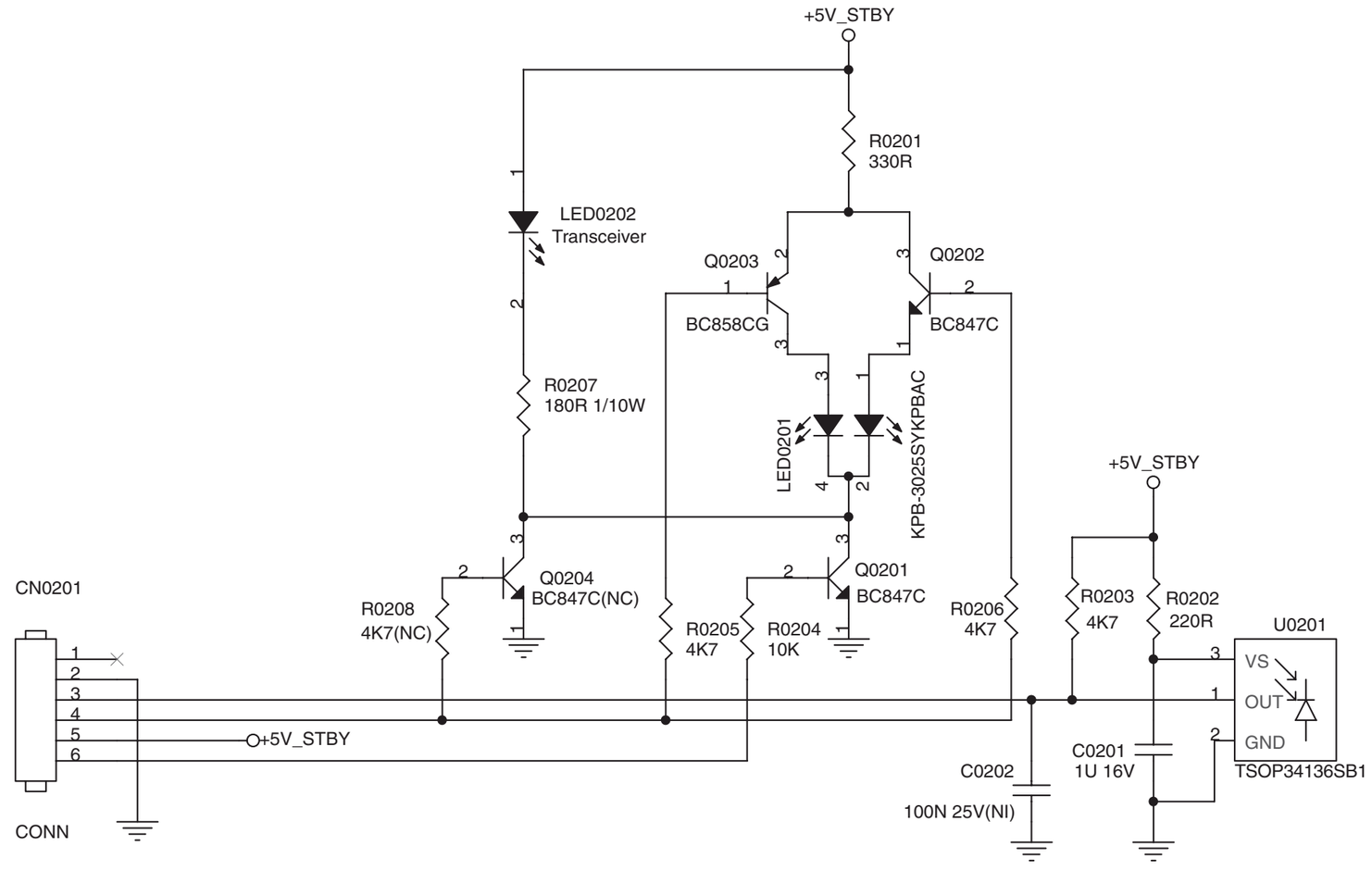
IR & LED Panel

J IR & LED PANEL J



CN0201	C1
C0201	C4
C0202	C4
ED0201	B3
ED0202	A3
Q0201	B3
Q0202	B4
Q0203	B3
Q0204	B3
R0201	A3
R0202	C4
R0203	C4
R0204	C3
R0205	C3
R0206	C4
R0207	B3
R0208	C2
U0201	C5

H_17010_047.eps
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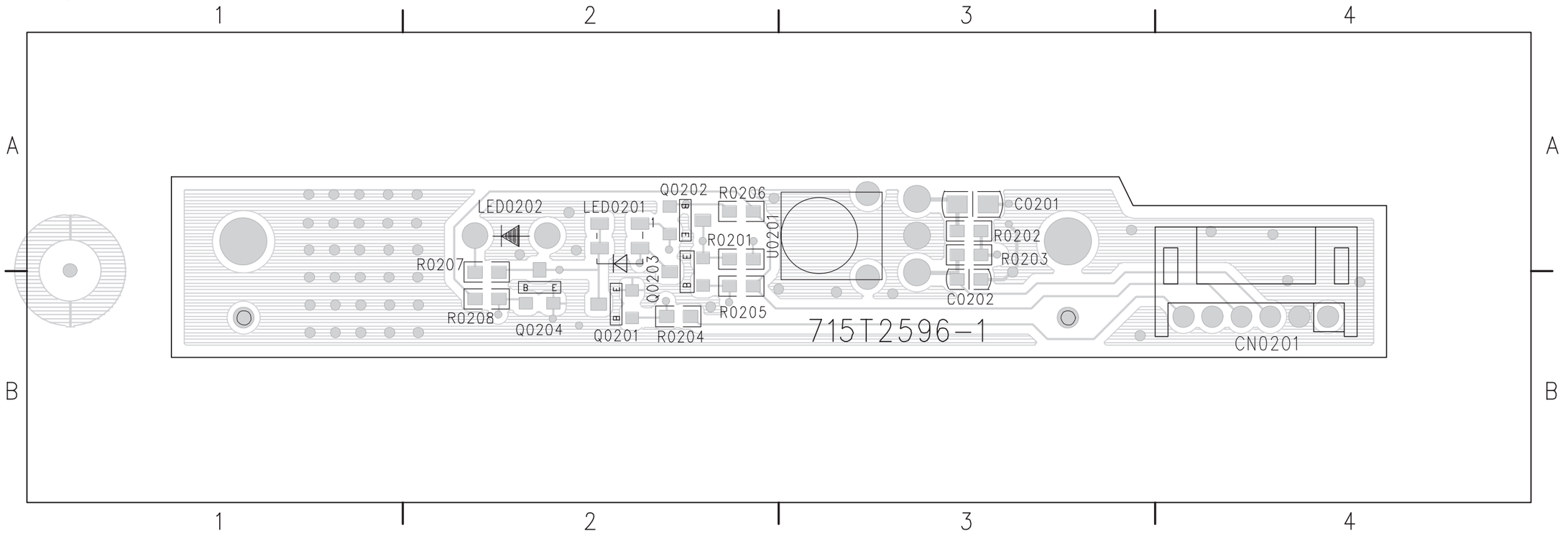
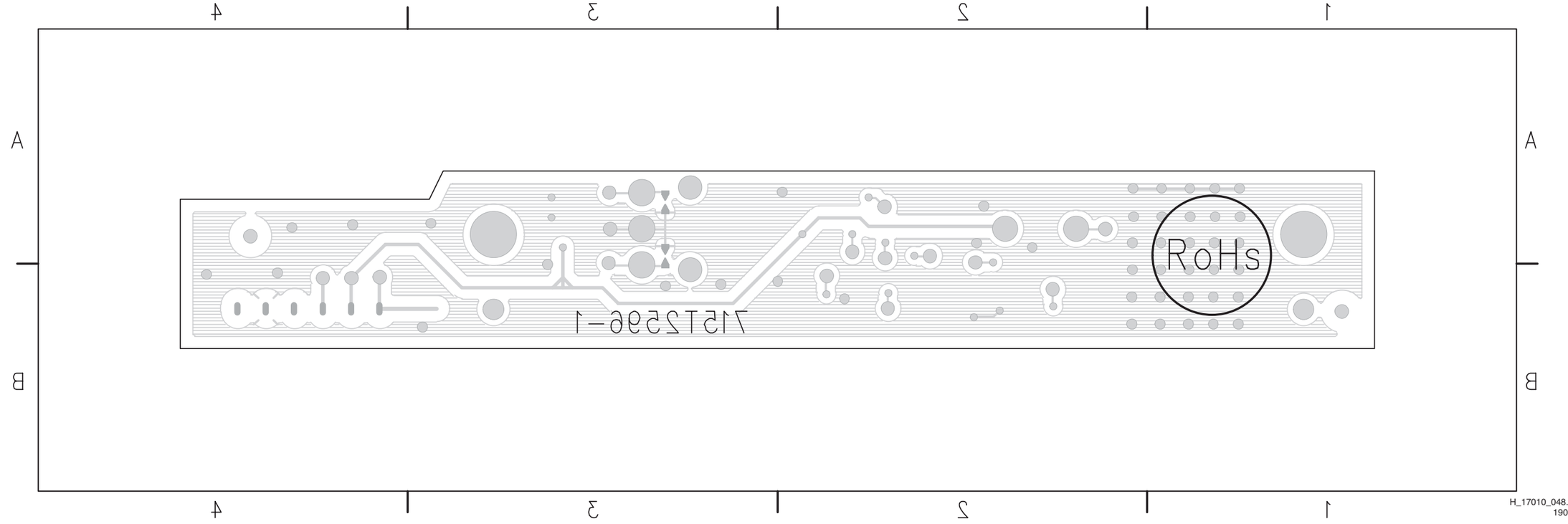
Layout IR & LED Panel (Top Side)



C0201 A3
C0202 B3
CN0201 B4
ED0201 A2
ED0202 A2
Q0201 B2
Q0202 A2
Q0203 B2
Q0204 B2
R0201 A2
R0202 A3
R0203 A3
R0204 B2
R0205 B2
R0206 A2
R0207 B2
R0208 B2
U0201 A3



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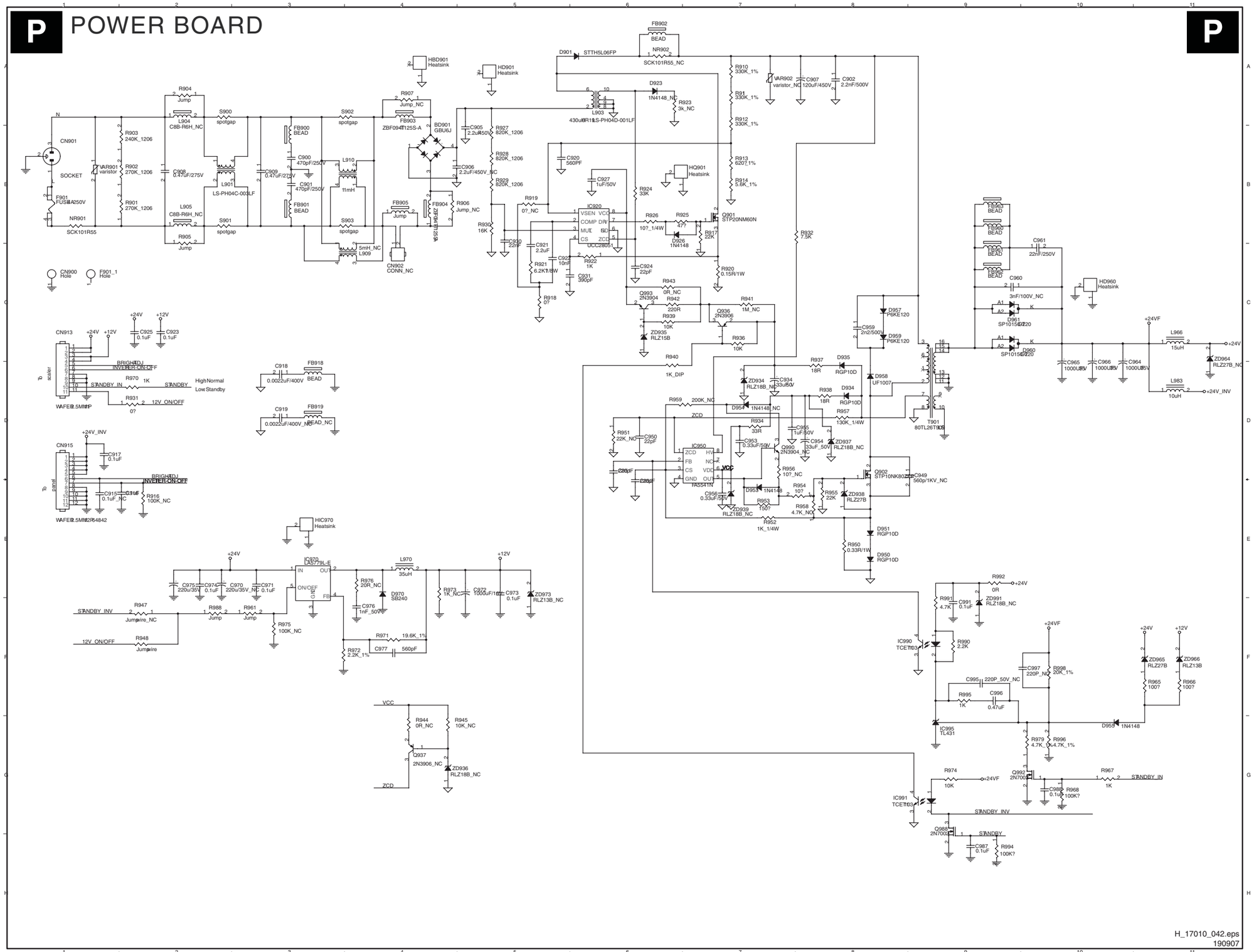
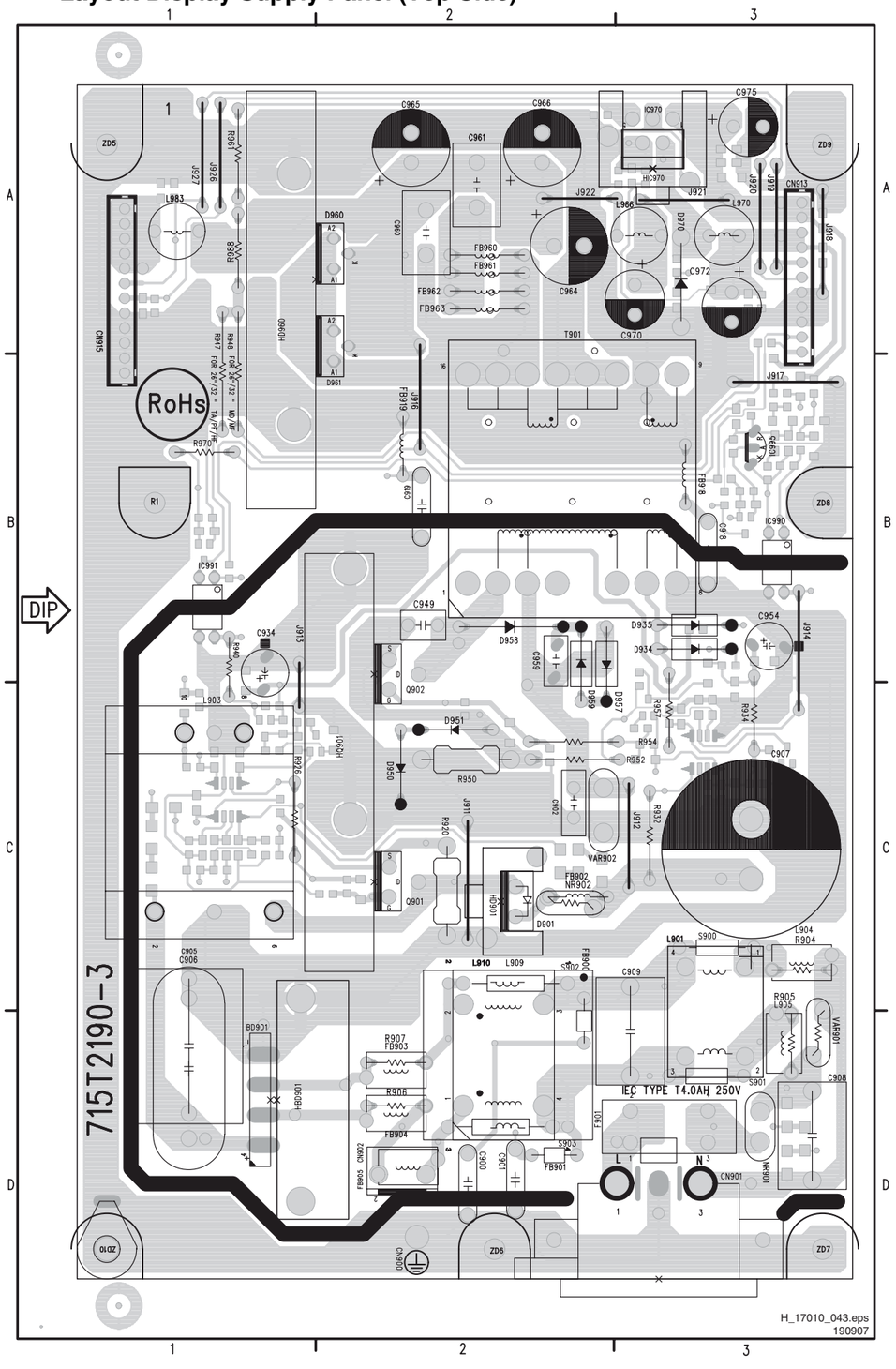
Display Supply Panel

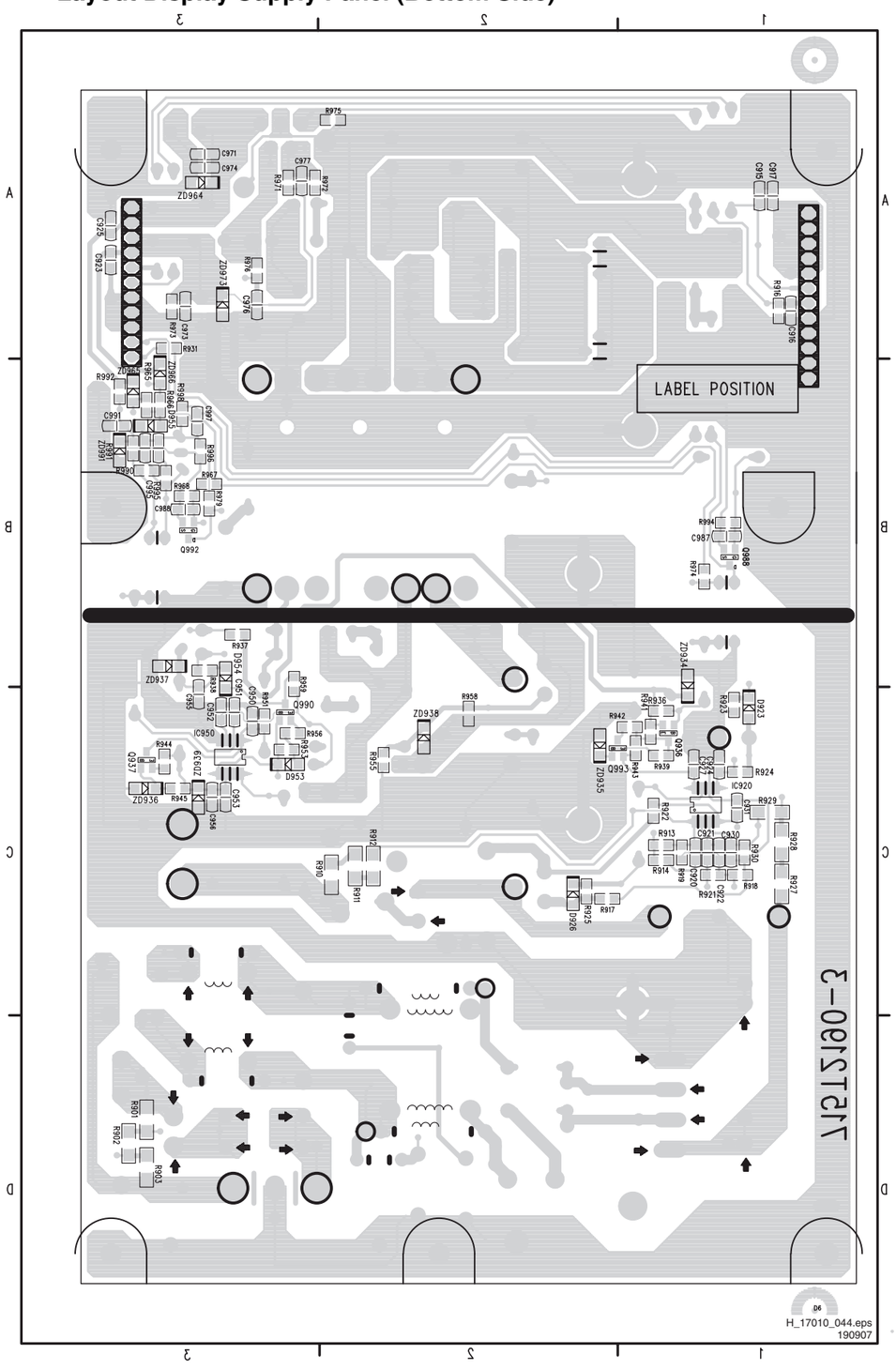


Layout Display Supply Panel (Top Side)



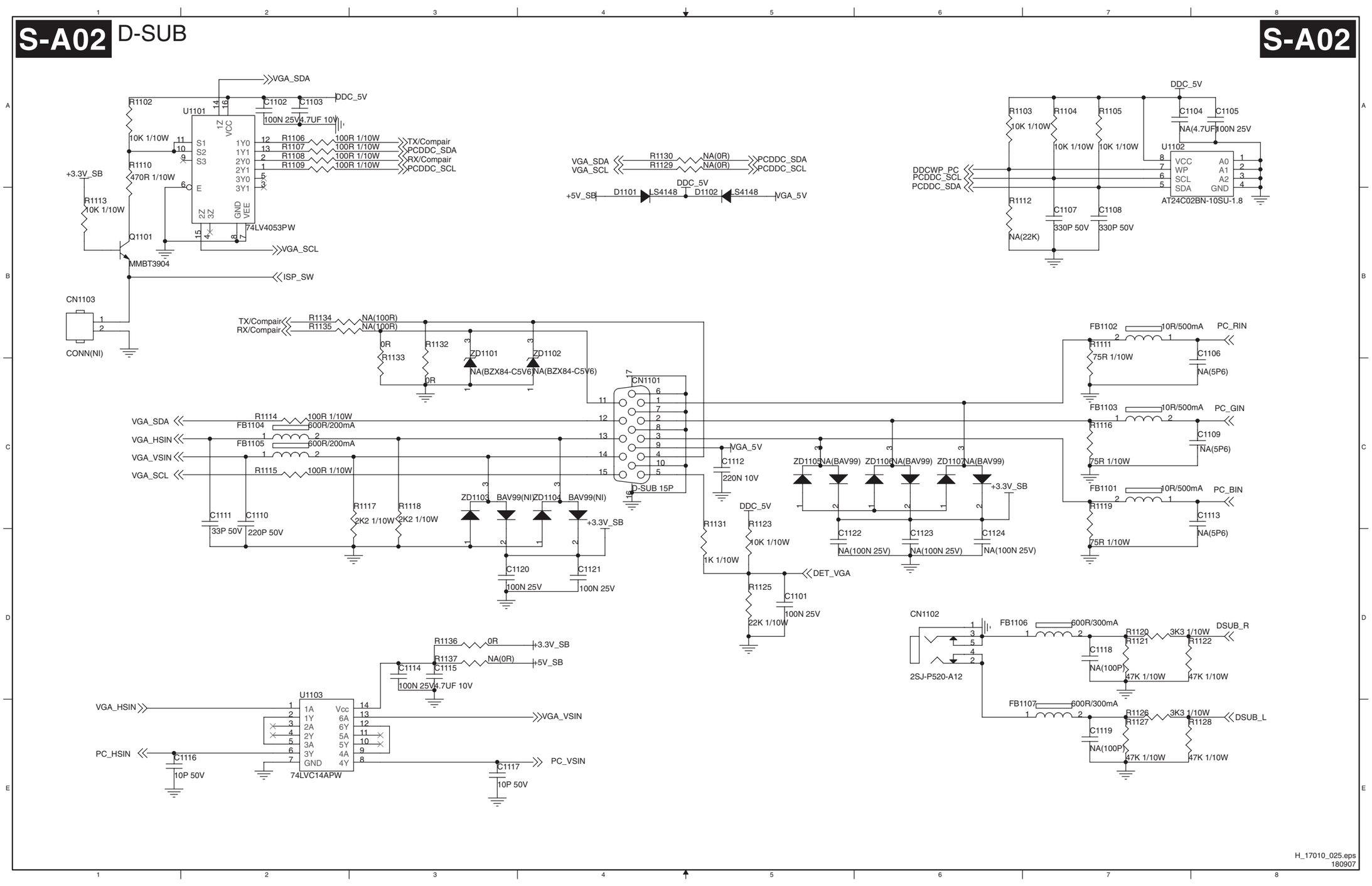
BD901 D1 IC990 B3
C900 D2 IC991 B1
C901 D2 IC995 B3
C902 C2 J911 C2
C905 D1 J912 C3
C906 D1 J913 C1
C907 C3 J914 C3
C908 D3 J916 B2
C909 D3 J917 B3
C918 B3 J918 A3
C919 B2 J919 A3
C934 B1 J920 A3
C949 B2 J921 A3
C954 B3 J922 A2
C959 B2 J926 A1
C960 A2 J927 A1
C961 A2 L901 D3
C964 A2 L903 C1
C965 A2 L904 C3
C966 A2 L905 D3
C970 A3 L909 D2
C972 A3 L910 D2
C975 A3 L966 A3
CN900 D2 L970 A3
CN901 D3 L983 A1
CN902 D2 NR901 D3
CN913 A3 NR902 C2
CN915 A1 Q901 C2
D901 C2 Q902 B2
D934 B3 R904 C3
D935 B3 R905 D3
D950 C2 R906 D2
D951 C2 R907 D2
D957 C2 R920 C2
D958 B2 R926 C1
D959 B2 R932 C3
D960 A2 R934 B3
D961 A2 R940 B1
D970 A3 R947 A1
F901 D3 R948 A1
FB900 D2 R950 C2
FB901 D2 R952 C3
FB902 C2 R954 C2
FB903 D2 R957 C3
FB904 D2 R961 A1
FB905 D2 R970 B1
FB918 B3 R988 A1
FB919 B2 S900 C3
FB960 A2 S901 D3
FB961 A2 S902 C2
FB962 A2 S903 D2
FB963 A2 T901 B2
HD901 C2 VAR901 C3
IC970 A3 VAR902 C2

Layout Display Supply Panel (Bottom Side)



C915 A1 R921 C1
C916 A1 R922 C1
C917 A1 R923 C1
C920 C1 R924 C1
C921 C1 R925 C2
C922 C1 R927 C1
C923 A3 R928 C1
C924 C1 R929 C1
C925 A3 R930 C1
C927 C1 R931 A3
C930 C1 R936 C1
C931 C1 R937 B3
C950 C3 R938 B3
C951 C3 R939 C1
C952 C3 R941 C1
C953 C3 R942 C1
C955 C3 R943 C1
C956 C3 R944 C3
C971 A3 R945 C3
C973 A3 R951 C3
C974 A3 R953 C3
C976 A3 R955 C2
C977 A3 R956 C3
C987 B1 R958 C2
C988 B3 R959 B3
C991 B3 R965 B3
C995 B3 R966 B3
C996 B3 R967 B3
C997 B3 R968 B3
D923 C1 R971 A3
D926 C2 R972 A3
D953 C3 R973 A3
D954 B3 R974 B1
D955 B3 R975 A2
IC920 C1 R976 A3
IC950 C3 R979 B3
Q936 C1 R990 B3
Q937 C3 R991 B3
Q988 B1 R992 B3
Q990 C3 R994 B1
Q992 B3 R995 B3
Q993 C2 R996 B3
R901 D3 R998 B3
R902 D3 ZD934 B1
R903 D3 ZD935 C2
R910 C2 ZD936 C3
R911 C2 ZD937 B3
R912 C2 ZD938 C2
R913 C1 ZD939 C3
R914 C1 ZD964 A3
R916 A1 ZD965 B3
R917 C2 ZD966 B3
R918 C1 ZD973 A3
R919 C1 ZD991 B3

TV & Scaler Board: D-Sub

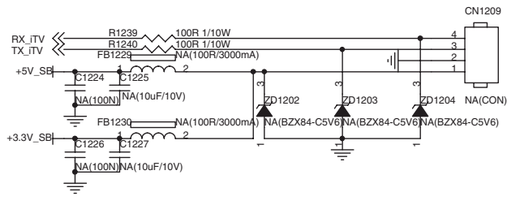


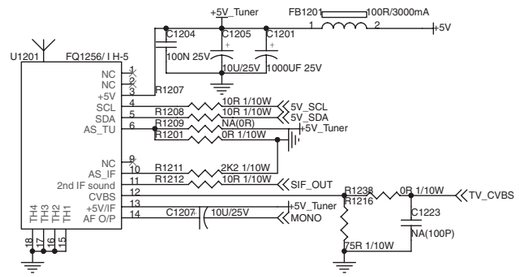
CN1101 C4
CN1103 B1
C1102 A2
C1104 A7
C1106 B7
C1108 B7
C1110 C2
C1112 C5
C1114 D3
C1116 E1
C1118 D7
C1120 D3
C1122 C5
C1124 C6
D1102 A5
FB1102 B7
FB1104 C2
FB1106 D7
Q1101 B1
R1103 A6
R1105 A7
R1107 A2
R1109 A2
R1111 B7
R1113 B1
R1115 C2
R1117 C2
R1119 C7
R1121 D7
R1123 C5
R1126 D7
R1128 E7
R1130 A4
R1132 B3
R1134 B2
R1136 D3
U1101 A2
U1103 D2
ZD1102 B4
ZD1104 C4
ZD1106 C6
CN1102 D6
C1101 D5
C1103 A2
C1105 A8
C1107 B7
C1109 C7
C1111 C2
C1113 C7
C1115 D3
C1117 E3
C1119 E7
C1121 D4
C1123 C6
D1101 A4
FB1101 C7
FB1103 C7
FB1105 C2
FB1107 D7
R1102 A1
R1104 A7
R1106 A2
R1108 A2
R1110 A1
R1112 B6
R1114 C2
R1116 C7
R1118 C3
R1120 D7
R1122 D7
R1125 D5
R1127 E7
R1129 A4
R1131 C5
R1133 B3
R1135 B2
R1137 D3
U1102 A7
ZD1101 B3
ZD1103 C3
ZD1105 C5
ZD1107 C6

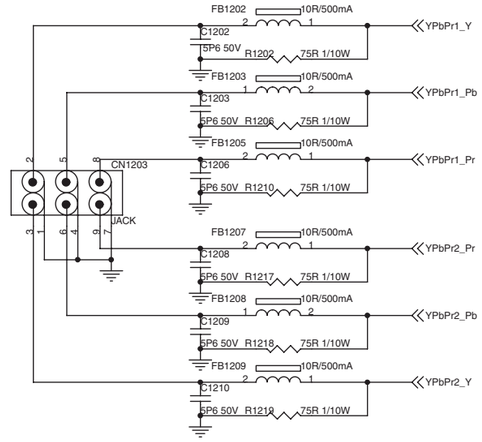
TV & Scaler Board: Tuner & Input

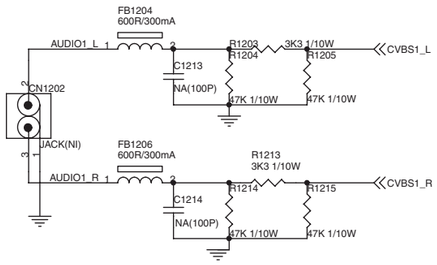
S-A03 TUNER & INPUT

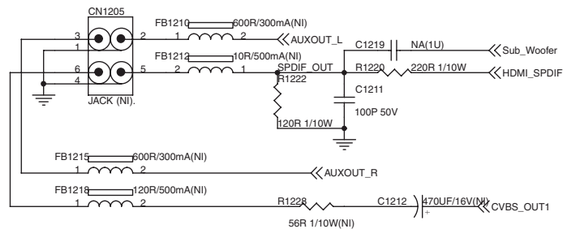
S-A03

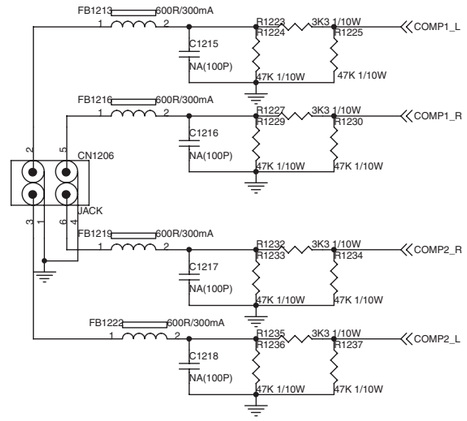


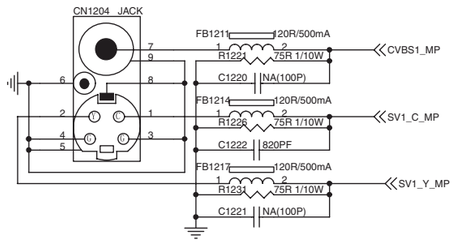


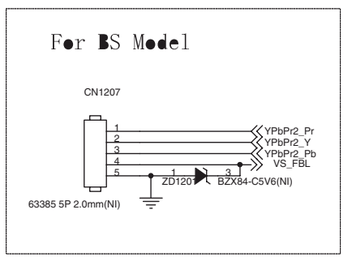


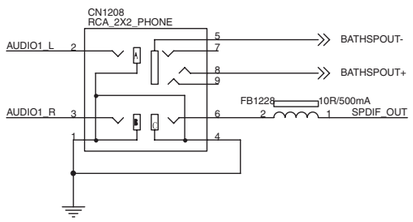


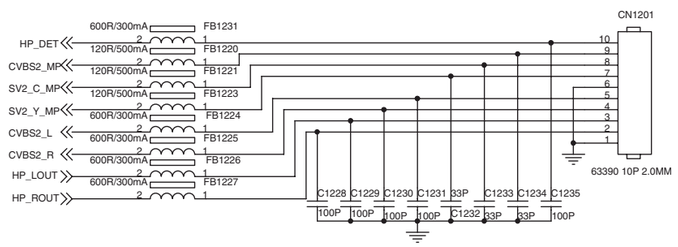




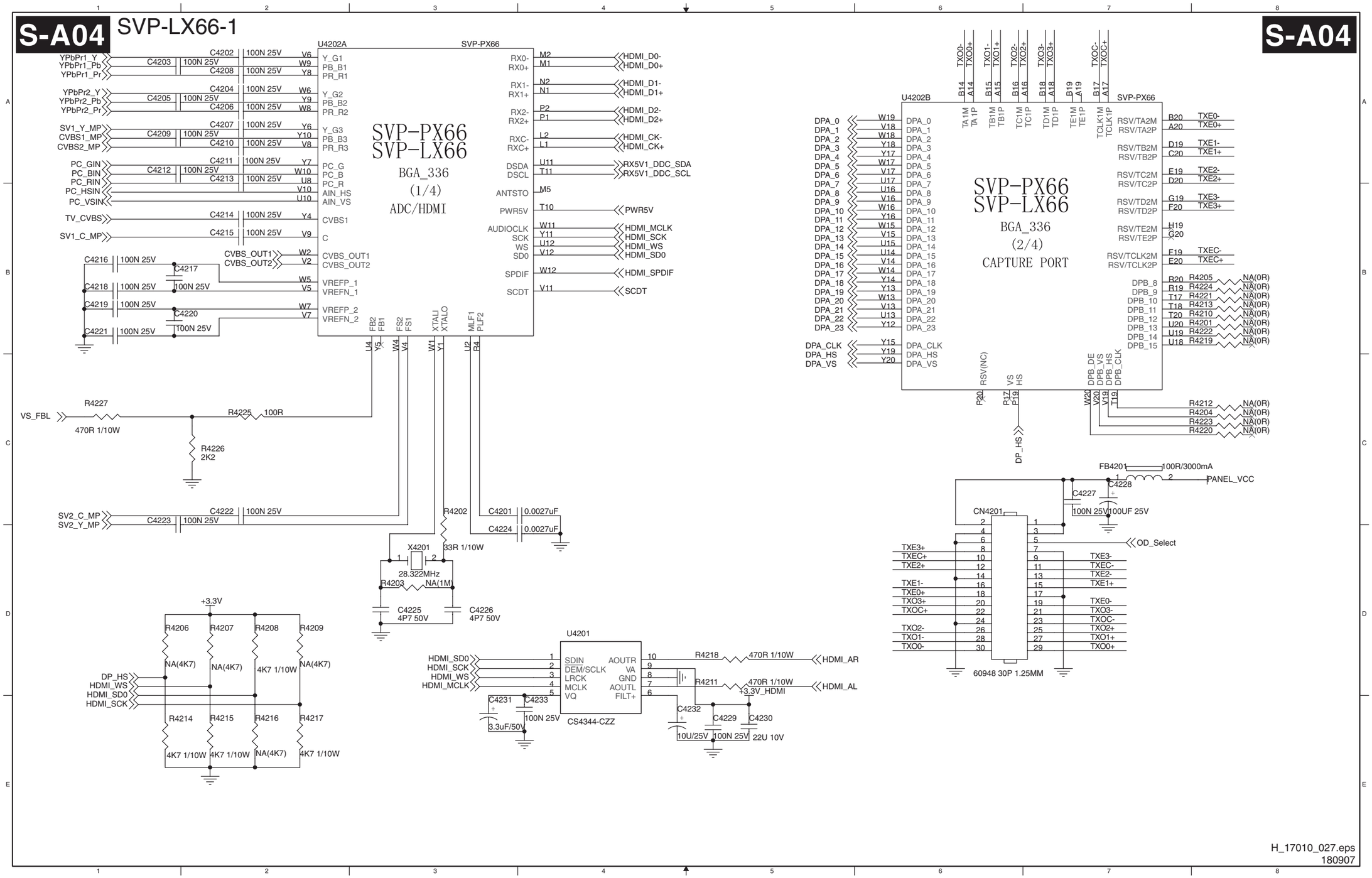








TV & Scaler Board: SVP LX66-1



CN4201	C6
C4202	A2
C4204	A2
C4206	A2
C4208	A2
C4210	A2
C4212	A1
C4214	B2
C4216	B1
C4218	B1
C4220	B1
C4222	C2
C4224	C3
C4226	D3
C4228	C7
C4230	E5
C4232	E4
FB4201	C7
R4202	C3
R4204	C8
R4206	D1
R4208	D2
R4210	B8
R4212	C8
R4214	E1
R4216	E2
R4218	D5
R4220	C8
R4222	B8
R4224	B8
R4226	C2
U4201	D4
U4202B	A6
C4201	C3
C4203	A1
C4205	A1
C4207	A2
C4209	A1
C4211	A2
C4213	A2
C4215	B2
C4217	B1
C4219	B1
C4221	B1
C4223	C1
C4225	D3
C4227	C7
C4229	E5
C4231	D3
C4233	D3
R4201	B8
R4203	D3
R4205	B8
R4207	D2
R4209	D2
R4211	D5
R4213	B8
R4215	E2
R4217	E2
R4219	B8
R4221	B8
R4223	C8
R4225	C2
R4227	C1
U4202A	A2
X4201	D3

TV & Scaler Board: SVP LX66-2

S-A05 SVP-LX66-2 S-A05

SVP-PX66
SVP-LX66
BGA_336
(3/4)
DDR & CPU INTERFACE

U4202C

U4301
NA(IS61LV256-12T)

SVP-PX66

RP4302 RP4303 RP4301 RP4304 100R 1/16W

R4311 NA(0R 1/10W)
R4312 NA(0R 1/10W)
R4313 10K
R4314 10K
Q4301 2N7002
Q4302 2N7002

R4304 10R 1/10W
R4305 10R 1/10W
R4307 47K
R4308 4K7 1/10W
R4309 1K 1/10W
R4310 1K 1/10W
R4301 0R05 1/10W
R4306 1K 1/10W
R4302 NA(22R)
R4303 NA(22R)

C4302 100UF 25V(NI)
C4303 100N 25V(NI)
C4304 100N 25V
C4305 4.7UF 10V
C4306 100N 25V
C4307 4.7UF 10V
C4308 1U 16V

C4301	D4	C	4302	A6
C4303	A6	C	4304	C5
C4305	D4	C	4306	D5
C4307	D6	C	4308	D2
Q4301	C1	Q	4302	D1
RP4301	B3	R	P4302	B3
RP4303	B3	R	P4304	C3
R4301	D4	R	4302	A6
R4303	B6	R	4304	C2
R4305	C2	R	4306	C6
R4307	D3	R	4308	D4
R4309	D6	R	4310	D3
R4311	C1	R	4312	D1
R4313	C1	R	4314	D1
U4202C	B3	U	4301	A7

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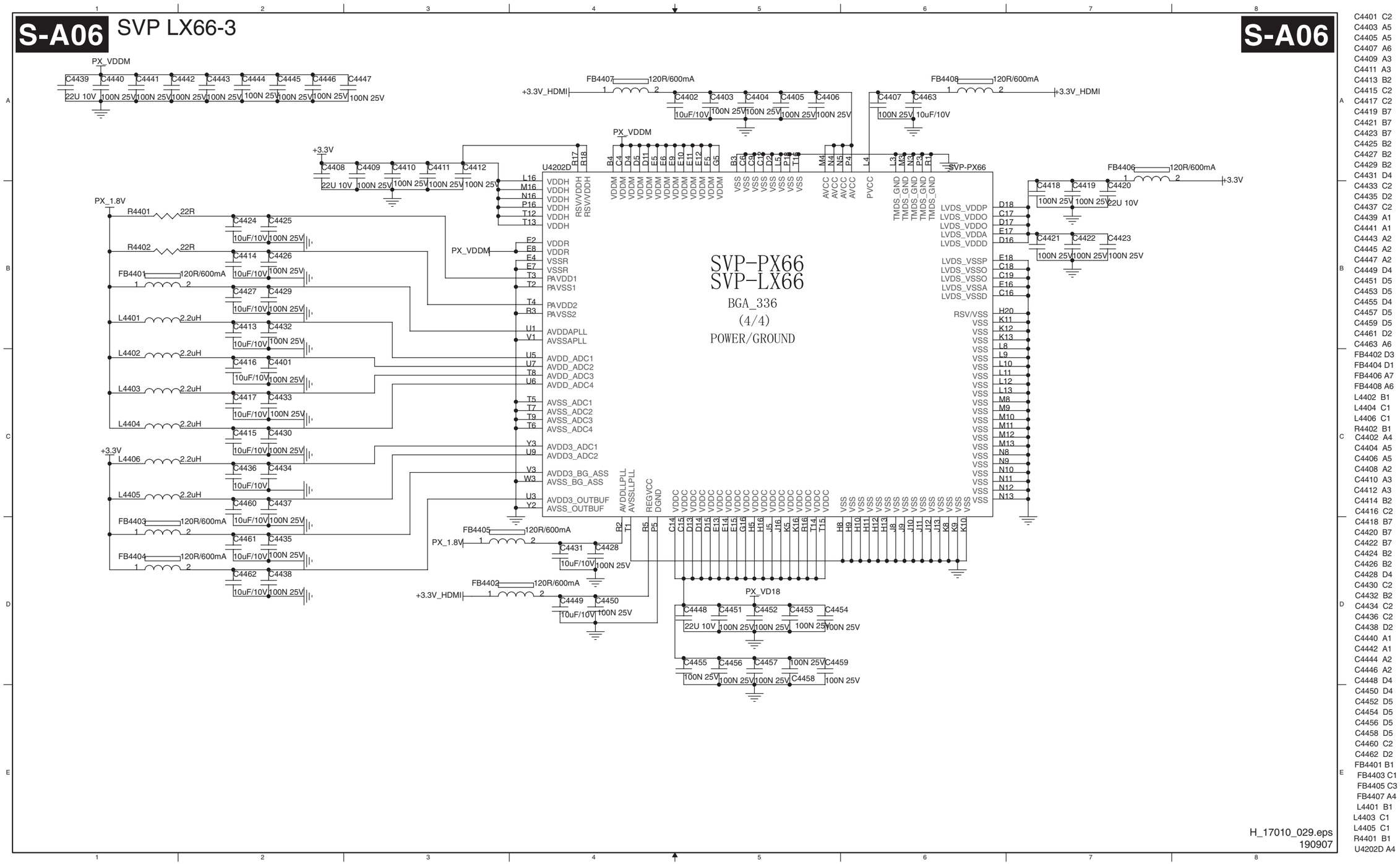
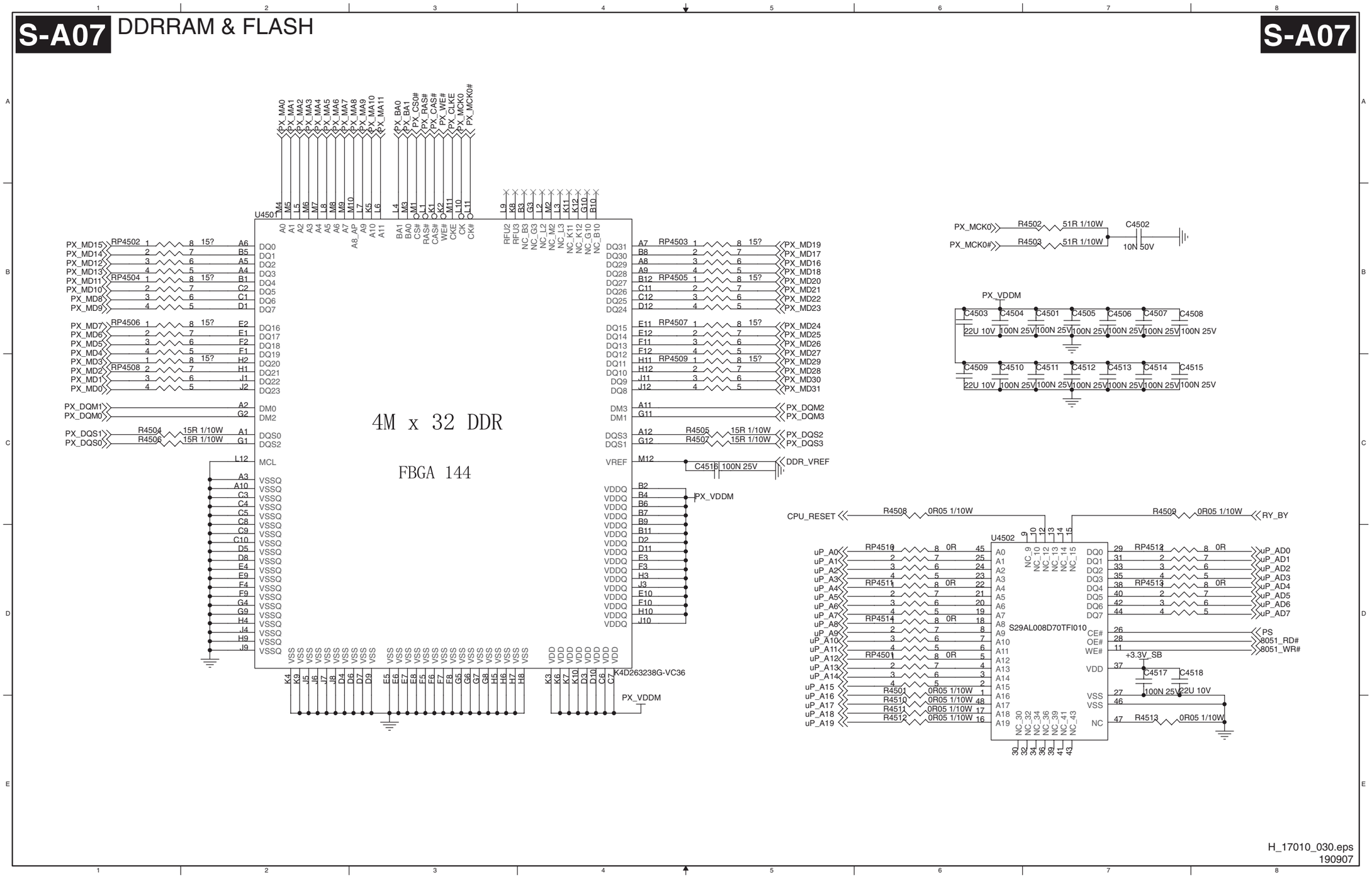
TV & Scaler Board: SVP LX66-3



C4401 C2
C4403 A5
C4405 A5
C4407 A6
C4409 A3
C4411 A3
C4413 B2
C4415 C2
C4417 C2
C4419 B7
C4421 B7
C4423 B7
C4425 B2
C4427 B2
C4429 B2
C4431 D4
C4433 C2
C4435 D2
C4437 C2
C4439 A1
C4441 A1
C4443 A2
C4445 A2
C4447 A2
C4449 D4
C4451 D5
C4453 D5
C4455 D4
C4457 D5
C4459 D5
C4461 D2
C4463 A6
FB4402 D3
FB4404 D1
FB4406 A7
FB4408 A6
L4402 B1
L4404 C1
L4406 C1
R4402 B1
C4402 A4
C4404 A5
C4406 A5
C4408 A2
C4410 A3
C4412 A3
C4414 B2
C4416 C2
C4418 B7
C4420 B7
C4422 B7
C4424 B2
C4426 B2
C4428 D4
C4430 C2
C4432 B2
C4434 C2
C4436 C2
C4438 D2
C4440 A1
C4442 A1
C4444 A2
C4446 A2
C4448 D4
C4450 D4
C4452 D5
C4454 D5
C4456 D5
C4458 D5
C4460 C2
C4462 D2
FB4401 B1
FB4403 C1
FB4405 C3
FB4407 A4
L4401 B1
L4403 C1
L4405 C1
R4401 B1
U4202D A4

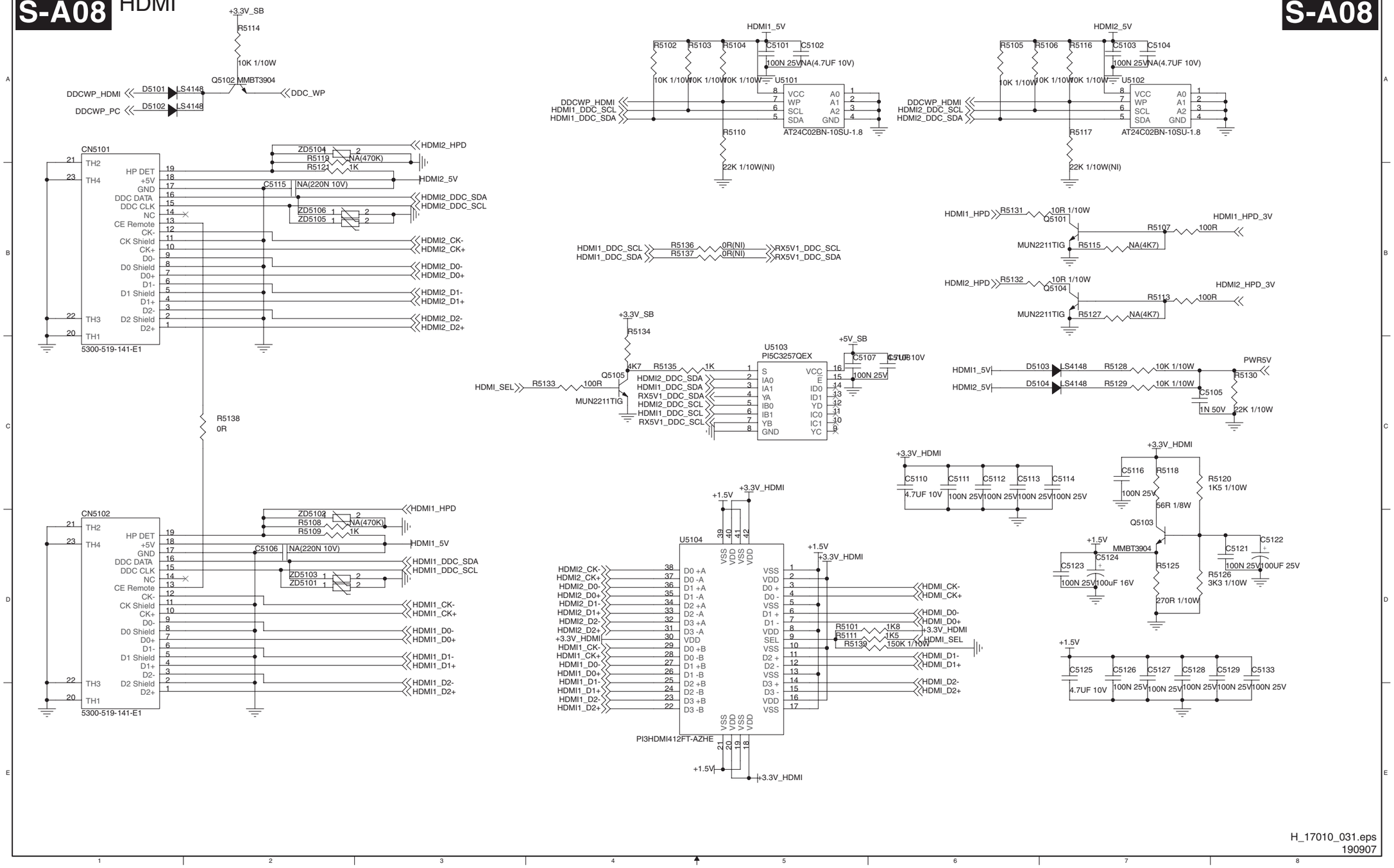
TV & Scaler Board: DDRRAM & Flash



C4501 B6
C4502 B7
C4503 B6
C4504 B6
C4505 B7
C4506 B7
C4507 B7
C4508 B7
C4509 C6
C4510 C6
C4511 C6
C4512 C7
C4513 C7
C4514 C7
C4515 C7
C4516 C5
C4517 D7
C4518 D7
RP4501 D6
RP4502 B1
RP4503 B5
RP4504 B1
RP4505 B5
RP4506 B1
RP4507 B5
RP4508 B1
RP4509 B5
RP4510 D6
RP4511 D6
RP4512 D7
RP4513 D7
RP4514 D6
R4501 D6
R4502 B7
R4503 B7
R4504 C1
R4505 C5
R4506 C1
R4507 C5
R4508 C6
R4509 C7
R4510 D6
R4511 D6
R4512 E6
R4513 E7
U4501 B2
U4502 D6

TV & Scaler Board: HDMI

S-A08 HDMI



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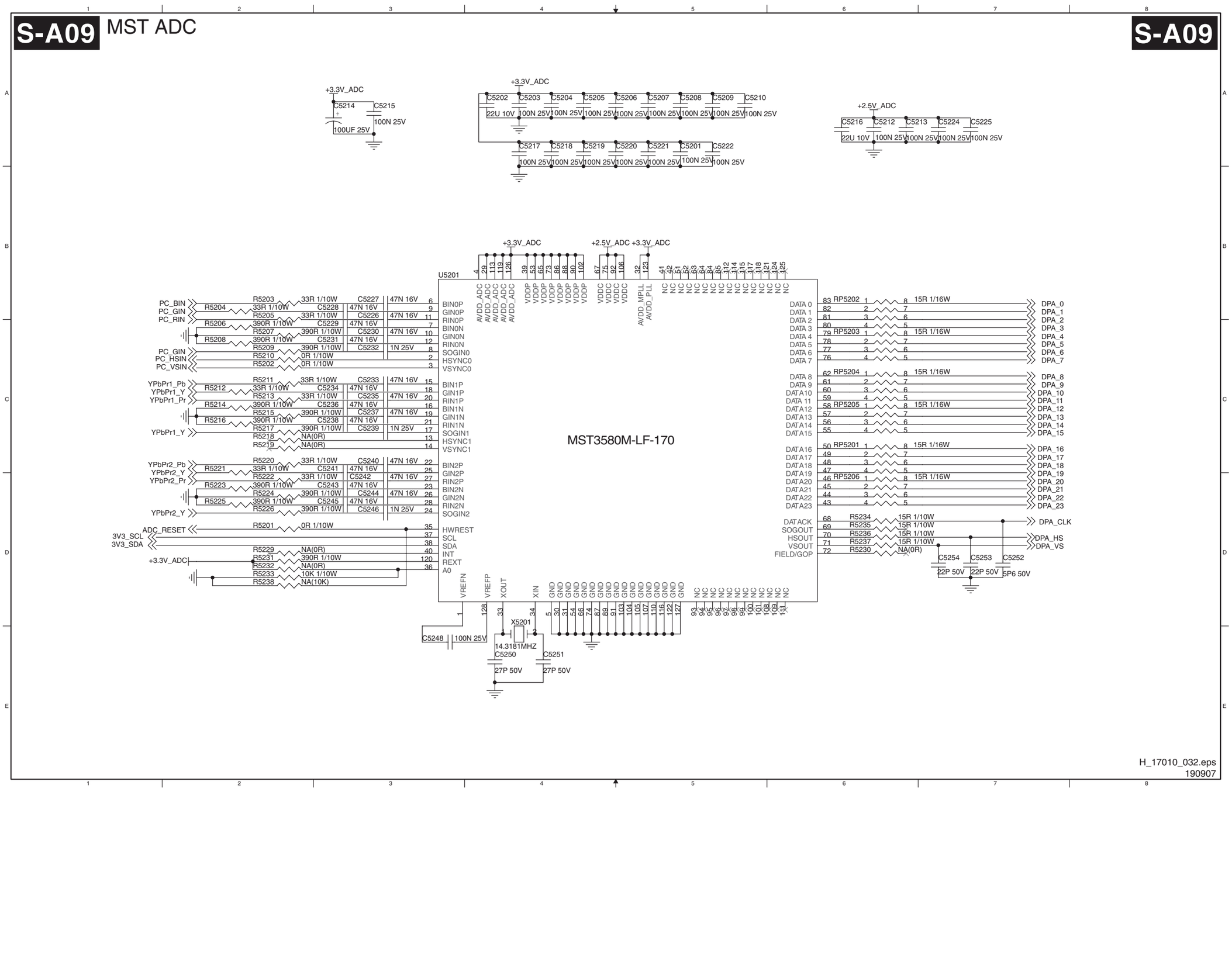
190907

CN5101 A1
C5101 A5
C5103 A7
C5105 C7
C5107 C5
C5110 C6
C5112 C6
C5114 C6
C5116 C7
C5122 D8
C5124 D7
C5126 D7
C5128 D7
C5133 D8
D5102 A1
D5104 C6
Q5102 A2
Q5104 B7
R5101 D5
R5103 A4
R5105 A6
R5107 B7
R5109 D2
R5111 D5
R5114 A2
R5116 A7
R5118 C7
R5120 C7
R5125 D7
R5127 B7
R5129 C7
R5131 B6
R5133 C4
R5135 C4
R5137 B4
R5139 D5
U5102 A7
U5104 D4
ZD5102 C2
ZD5104 A2
CN5102 C1
C5102 A5
C5104 A7
C5106 D2
C5108 C6
C5111 C6
C5113 C6
C5115 B2
C5121 D7
C5123 D7
C5125 D7
C5127 D7
C5129 D7
D5101 A1
D5103 C6
Q5101 B7
Q5103 D7
Q5105 C4
R5102 A4
R5104 A5
R5106 A6
R5108 C2
R5110 A5
R5113 B7
R5115 B7
R5117 A7
R5119 A2
R5121 A2
R5126 D7
R5128 C7
R5130 C8
R5132 B6
R5134 B4
R5136 B4
R5138 C2
U5101 A5
U5103 C5
ZD5101 D2
ZD5103 D2
ZD5105 B2

TV & Scaler Board: MST ADC

S-A09 MST ADC **S-A09**



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190907

C5201 A5 C5202 A4
C5203 A4 C5204 A4
C5205 A4 C5206 A4
C5207 A5 C5208 A5
C5209 A5 C5210 A5
C5212 A6 C5213 A6
C5214 A3 C5215 A3
C5216 A6 C5217 A4
C5218 A4 C5219 A4
C5220 A4 C5221 A5
C5222 A5 C5224 A7
C5225 A7 C5226 B3
C5227 B3 C5228 B3
C5229 B3 C5230 C3
C5231 C3 C5232 C3
C5233 C3 C5234 C3
C5235 C3 C5236 C3
C5237 C3 C5238 C3
C5239 C3 C5240 C3
C5241 C3 C5242 C3
C5243 C3 C5244 D3
C5245 D3 C5246 D3
C5248 D3 C5250 E4
C5251 E4 C5252 D7
C5253 D7 C5254 D7
RP5201 C6 RP5202 B6
RP5203 C6 RP5204 C6
RP5205 C6 RP5206 C6
R5201 D2 R5202 C2
R5203 B2 R5204 B2
R5205 B2 R5206 B2
R5207 C2 R5208 C2
R5209 C2 R5210 C2
R5211 C2 R5212 C2
R5213 C2 R5214 C2
R5215 C2 R5216 C2
R5217 C2 R5218 C2
R5219 C2 R5220 C2
R5221 C2 R5222 C2
R5223 C2 R5224 D2
R5225 D2 R5226 D2
R5229 D2 R5230 D6
R5231 D2 R5232 D2
R5233 D2 R5234 D6
R5235 D6 R5236 D6
R5237 D6 R5238 D2
U5201 B3 X5201 D4

TV & Scaler Board: Sound Delay

S-A10 SOUND DELAY **S-A10**

C6101 B4
C6102 B1
C6103 B7
C6104 B3
C6105 C1
C6106 D5
C6107 D6
Q6101 B6
R6101 D2
R6102 B6
R6103 B7
R6104 C7
R6105 C7
R6106 C7
R6107 C7
R6108 C7
R6109 C7
R6110 D7
R6111 D7
R6112 D4
R6113 D2
R6114 D4
R6115 D2
R6116 D4
R6117 D7
U6101 C6
U6102 B1
U6103 C3
U6104 C4
U6105 D1

+5V
C6102 NA(100N)
U6102 NA(M74HC590M1R)
C6104 NA(100N)
C6101 100UF 25V(NI)
U6103 NA(CY7C199-15ZXC)
I2S_DA_OUT 14
U6104 NA(74HC573PW)
C6106 NA(100N)
U6101 NA(74HC573PW)
C6107 NA(100N)
C6105 NA(100N)
U6105 NA(M74HC590M1R)
R6101 NA(0R)
R6113 NA(0R)
R6115 NA(0R)
R6112 NA(0R)
R6114 NA(0R)
R6116 NA(0R)
R6102 NA(470R)
Q6101 NA(MMBT2369A)
R6103 NA(4K7) HDMI_SCK 8,9,14
C6103 NA(15pF)
R6104 NA(0R) I2S_DA_IN2 14
R6105 NA(0R)
R6106 NA(0R)
R6107 NA(0R)
R6108 NA(0R) HDMI_SD0 8,9,14
R6109 NA(0R)
R6110 NA(0R)
R6111 NA(0R)
R6117 NA(0R)

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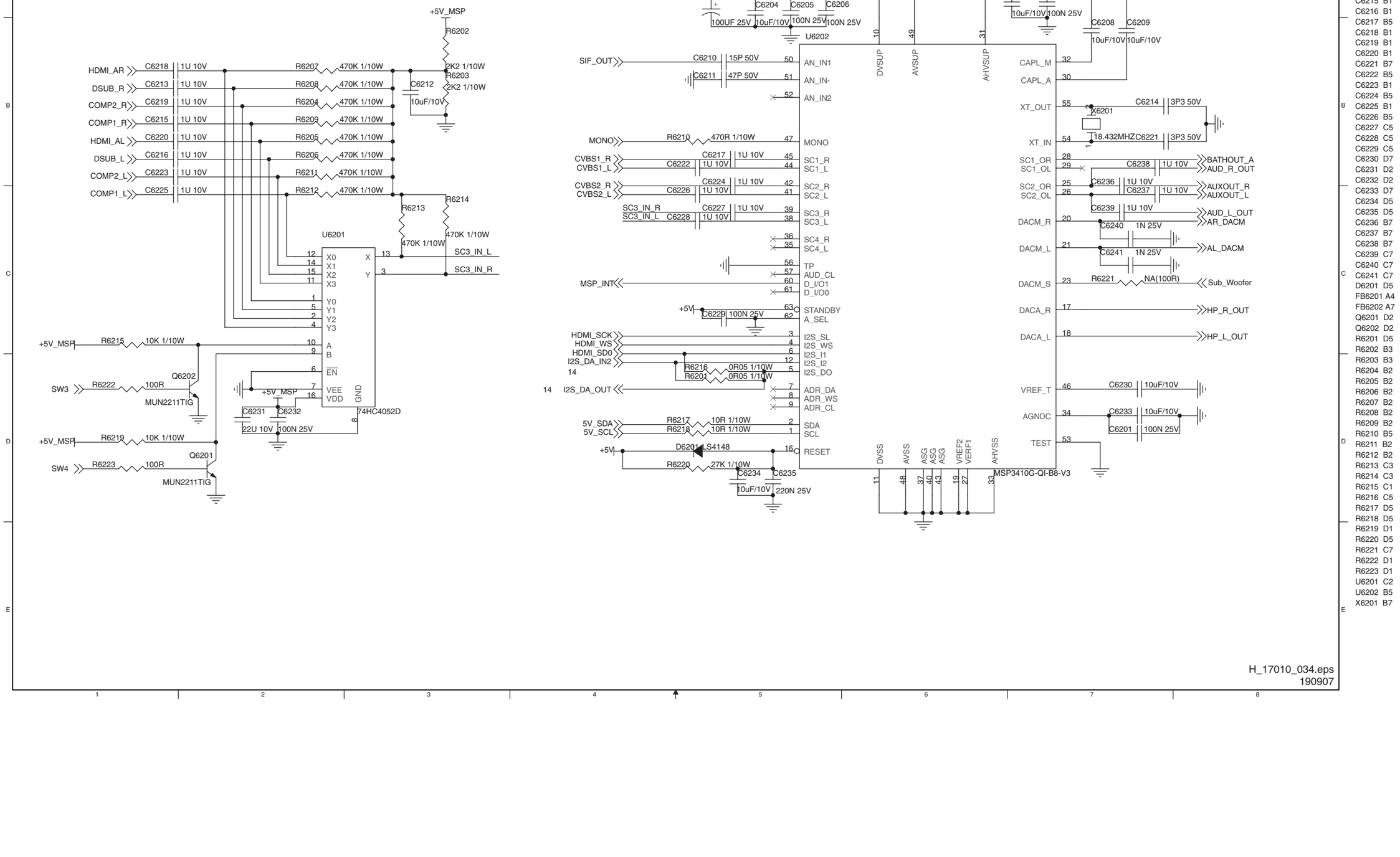
190907

TV & Scaler Board: Audio Decoder

S-A11 AUDIO DECODER

S-A11



H_17010_034.eps
190907

C6201 D7
C6202 A5
C6203 A6
C6204 A5
C6205 A5
C6206 A5
C6207 A7
C6208 B7
C6209 B7
C6210 B5
C6211 B5
C6212 B3
C6213 B1
C6214 B7
C6215 B1
C6216 B1
C6217 B5
C6218 B1
C6219 B1
C6220 B1
C6221 B7
C6222 B5
C6223 B1
C6224 B5
C6225 B1
C6226 B5
C6227 C5
C6228 C5
C6229 C5
C6230 D7
C6231 D2
C6232 D2
C6233 D7
C6234 D5
C6235 D5
C6236 B7
C6237 B7
C6238 B7
C6239 C7
C6240 C7
C6241 C7
D6201 D5
FB6201 A4
FB6202 A7
Q6201 D2
Q6202 D2
R6201 D5
R6202 B3
R6203 B3
R6204 B2
R6205 B2
R6206 B2
R6207 B2
R6208 B2
R6209 B2
R6210 B5
R6211 B2
R6212 B2
R6213 C3
R6214 C3
R6215 C1
R6216 C5
R6217 D5
R6218 D5
R6219 D1
R6220 D5
R6221 C7
R6222 D1
R6223 D1
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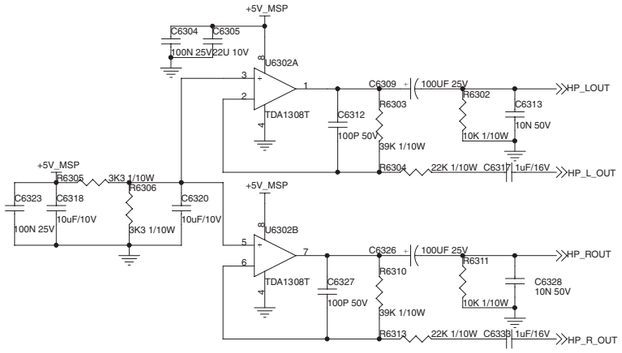
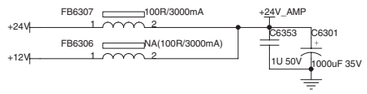
U6202 B5
X6201 B7

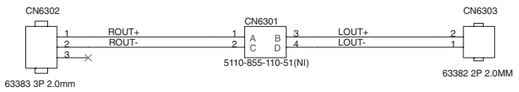
TV & Scaler Board: Audio Amplifier

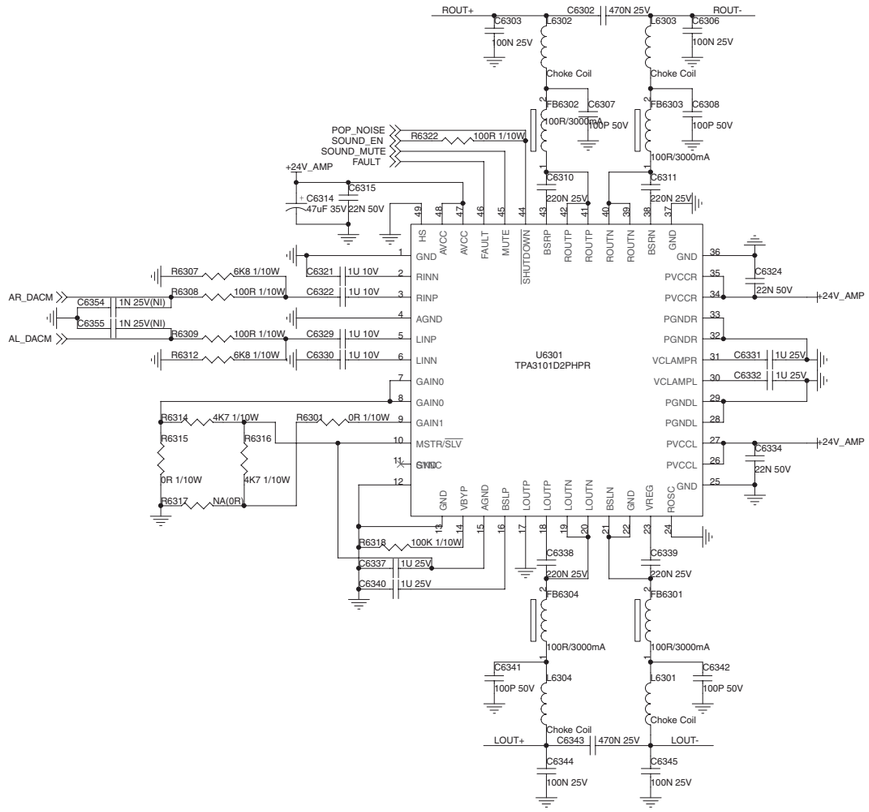
S-A12 AUDIO AMPLIFIER

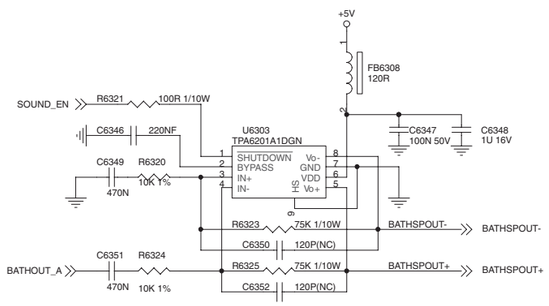
S-A12











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CN6301 D2
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CN6303 D3
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R6313 C3
R6314 D5
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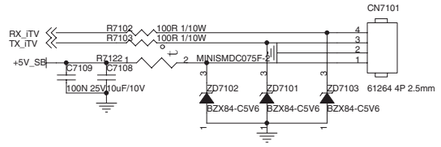
R6316 D5
R6317 D5
R6318 D6
R6320 G2
R6321 F2
R6322 B6
R6323 G3
R6324 G2
R6325 G3
U6301 C6
U6302A B2
U6302B C2
U6303 G2

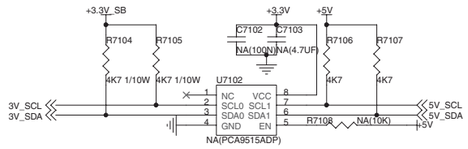
TV & Scaler Board: iTV & ComPair

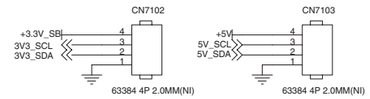
S-A13 ITV & ComPair

S-A13

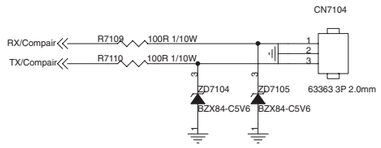
PORT for Level 1

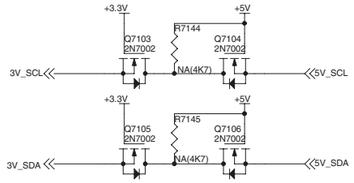


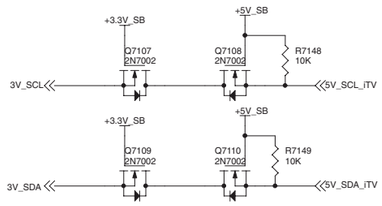




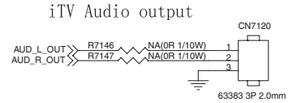
For Compair I/F



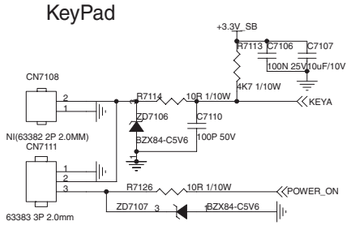


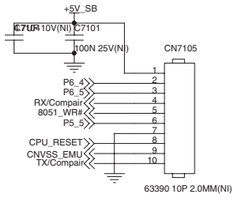


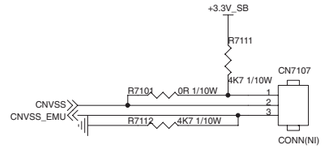
iTV Audio output



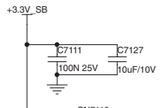
KeyPad

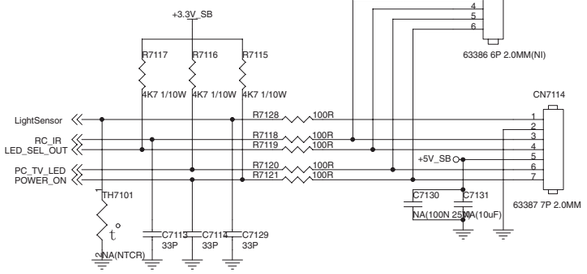




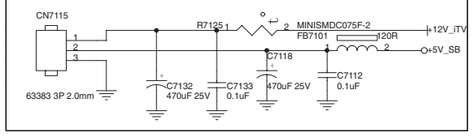


For IR BOARD

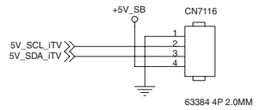




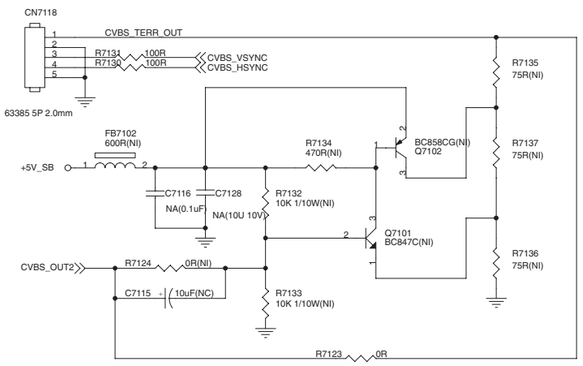
Power for I-BOARD (Level 2)



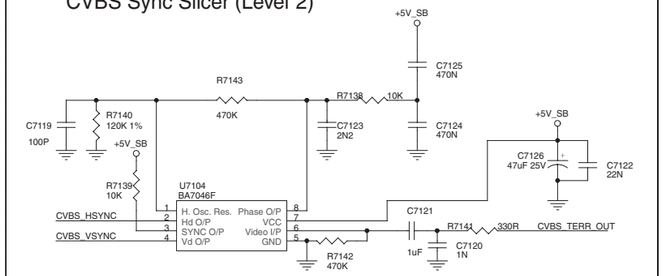
Control I/F for I-BOARD (Level 2)
2nd Control I/F



Video I/F for I-BOARD (Level 2)



CVBS Sync Slicer (Level 2)



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CN7108 C1
CN7110 D9
CN7112 E8
CN7114 E6
CN7116 F2
CN7119 D6
C7101 C4
C7103 A5
C7106 C2
C7108 A1
C7110 C2
C7112 E2
C7114 F5
C7116 G4
C7119 F8
C7121 G10
C7123 F9
C7125 F10
C712T D6
C7129 F5
C7131 E6
C7133 E2
FB7102 G4
Q7102 G6
Q7104 B5
Q7106 B5
Q7108 B8
Q7110 C8
R7102 A1
R7104 A4
R7106 A5
R7108 B5
R7110 B2
R7112 C9
R7114 C2
R7116 E5
R7118 E5
R7120 E5
R7122 A1
R7124 H4
R7126 D2
R7130 G4
R7132 G5
R7134 G5
R7136 H6
R7138 F9
R7140 G9
R7142 G9
R7144 B5
R7146 B9
R7148 B8
TH7101 E4
U7104 G8
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ZD7104 B2
ZD7106 C1
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CN7104 B3
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CN7109 D8
CN7111 D1
CN7113 E9
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CN7120 B10
C7102 A5
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C7111 D6
C7113 F4
C7115 H4
C7118 E2
C7120 G10
C7122 G11
C7124 F10
C7126 G10
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C7130 E6
C7132 E1
FB7101 E3
Q7101 G6
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Q7109 C7
R7101 C9
R7103 A1
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R7115 E5
R7117 E4
R7119 E5
R7121 E5
R7123 H6
R7125 E2
R7128 E5
R7131 F4
R7133 H5
R7135 G6
R7137 G6
R7139 G8
R7141 G10
R7143 F9
R7145 B5
R7147 B9
R7149 B8
U7102 A5
ZD7101 A2
ZD7103 A2
ZD7105 B2
ZD7107 B2

TV & Scaler Board: Power

S-A14 POWER

S-A14

+24V
+12V
+3.3V_SB
+5V
+3.3V_ADC
+3.3V
+5V_SB
+12V_iTV
PANEL_VCC
PX_1.8V
PX_VDDM
PX_VD18

CN7201
CN7202
63391 11P 2.0MM
63385 5P 2.0mm
PANEL_PWM
BRIGHT_ADJ
PWM_SEL
STANDBY
INVERTER_ON_OFF
CPU_RESET
DATALOSS_DET
POP_NOISE

C7201 C7202 C7203 C7204 C7205 C7206 C7207 C7208 C7209 C7210 C7211 C7212 C7213 C7214 C7215 C7216 C7217 C7218 C7219 C7220 C7221 C7222 C7223 C7224 C7225 C7226 C7227 C7229 C7230 C7231 C7232 C7233 C7234 C7235 C7236 C7237 C7238 C7239 C7241 C7242 C7243 C7244 C7246 C7247 C7248 C7249 C7250 C7251 C7252 C7253 C7254 C7256 C7257 C7258 C7259 C7260 C7262 C7263

D7201 D7202 D7203 D7204 D7205 D7206 D7207

FB7201 FB7202 FB7203 FB7204 FB7205 FB7206 FB7207 FB7208 FB7209 FB7210 FB7211 FB7212 FB7213 FB7214

L7201 L7202 L7203 L7204 L7205

Q7201 Q7202 Q7203 Q7204 Q7205 Q7206 Q7207 Q7209 Q7210 Q7211 Q7214 Q7215 Q7216

R7201 R7202 R7203 R7205 R7206 R7207 R7209 R7210 R7211 R7212 R7213 R7214 R7215 R7216 R7217 R7218 R7219 R7220 R7221 R7222 R7224 R7225 R7226 R7227 R7229 R7230 R7231 R7232 R7234 R7235 R7236 R7237 R7238 R7239 R7240 R7241 R7242 R7243 R7244 R7245 R7246 R7247 R7248 R7249 R7250 R7251 R7252 R7253 R7254 R7255 R7256 R7257 R7258 R7259 R7260 R7261 R7262 R7263

U7201 U7202 U7203 U7204 U7205 U7206 U7207 U7208 U7209 U7211

ZD7201 ZD7202

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Layout TV & Scaler Board (Overview Top Side)

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C1106 D3 C1228 A5 C4216 C3 C5230 C3 C6204 B6 C6237 B5 C6334 C1 C7115 B6 C7218 C1 C7256 A1 CN7111 A4 FB1210 D5 FB7202 B1 Q7202 A1 R1202 D3 R1235 D4 R4130 C4 R4220 B3 R5206 C3 R6103 A6 R6219 C5
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C1111 D2 C1231 A5 C4219 C3 C5233 C3 C6207 B5 C6240 B5 C6339 C1 C7119 B6 C7221 C1 C7262 B2 CN7114 A4 FB1213 D4 FB7209 C1 Q7205 B1 R1205 D5 R1238 C5 R4133 C4 R4223 B3 R5209 C3 R6106 A6 R6222 C5
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C1210 D3 C4112 C4 C4518 A4 C5248 C3 C6221 B6 C6315 D1 C6353 C1 C7133 C6 C7236 B1 CN4101 B4 FB1101 D3 FB1227 A5 Q5103 D2 R1118 D2 R1219 D3 R4114 B4 R4147 B4 R5115 D2 R5223 C3 R6203 C5 R6313 A5
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C1212 D5 C4202 C3 C5108 D2 C5251 C4 C6223 C5 C6318 A5 C6355 D1 C7204 A1 C7238 B1 CN5101 D2 FB1103 D3 FB1231 A5 Q6101 A6 R1120 D2 R1221 D4 R4116 B4 R4154 C5 R5120 D2 R5225 C4 R6205 C5 R6315 C1
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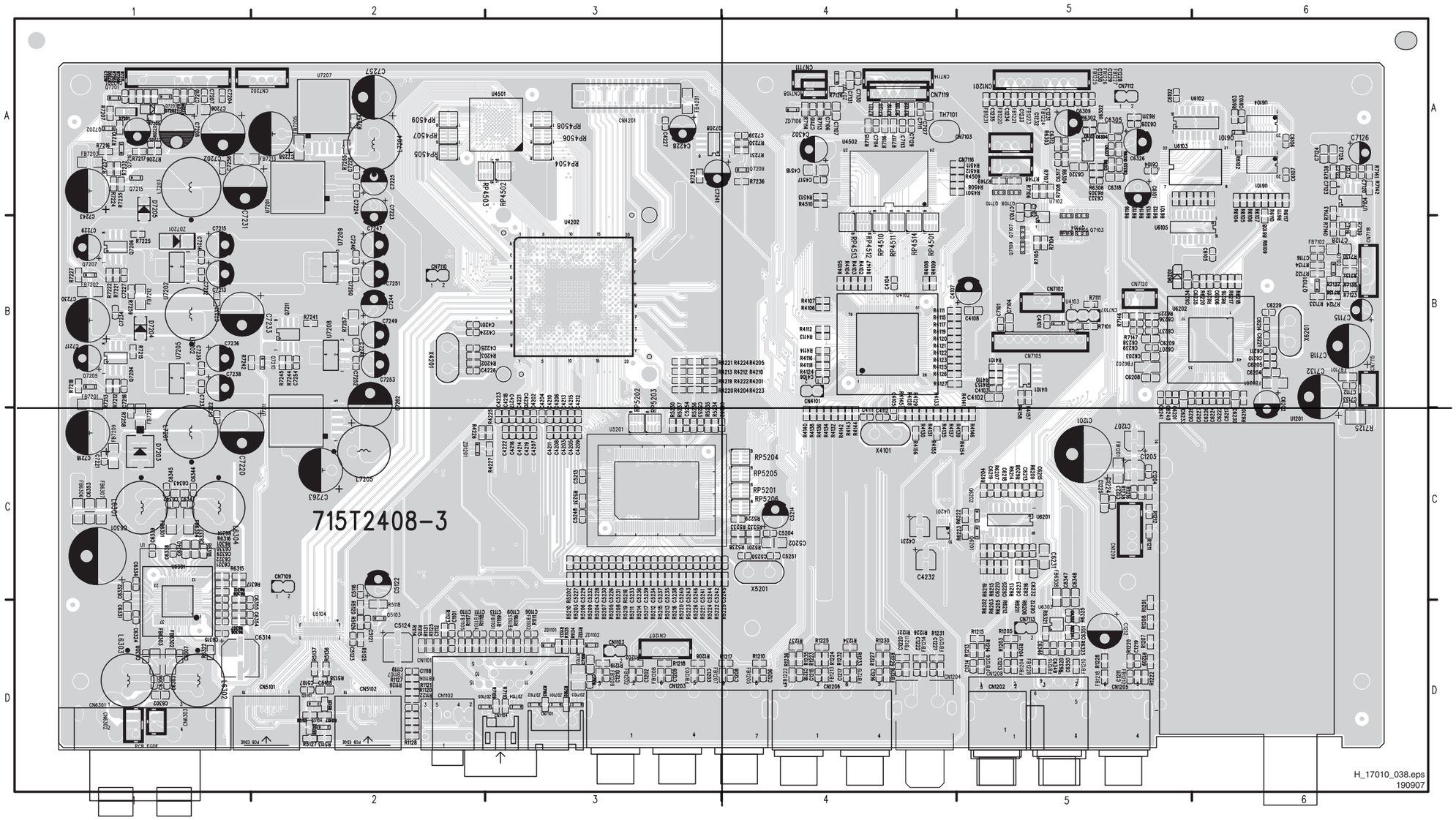
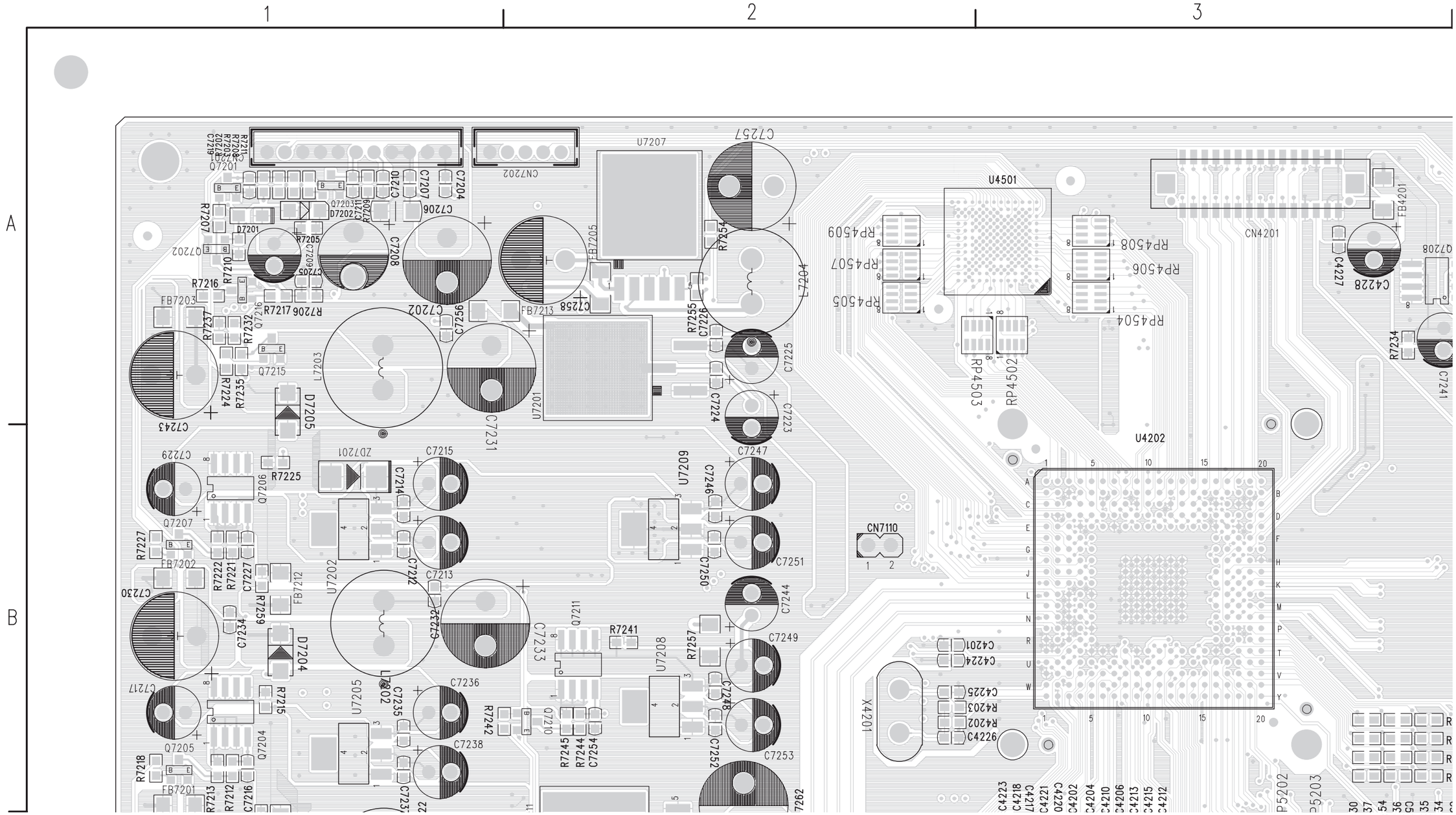


Layout TV & Scaler Board (Part 1 Top Side)



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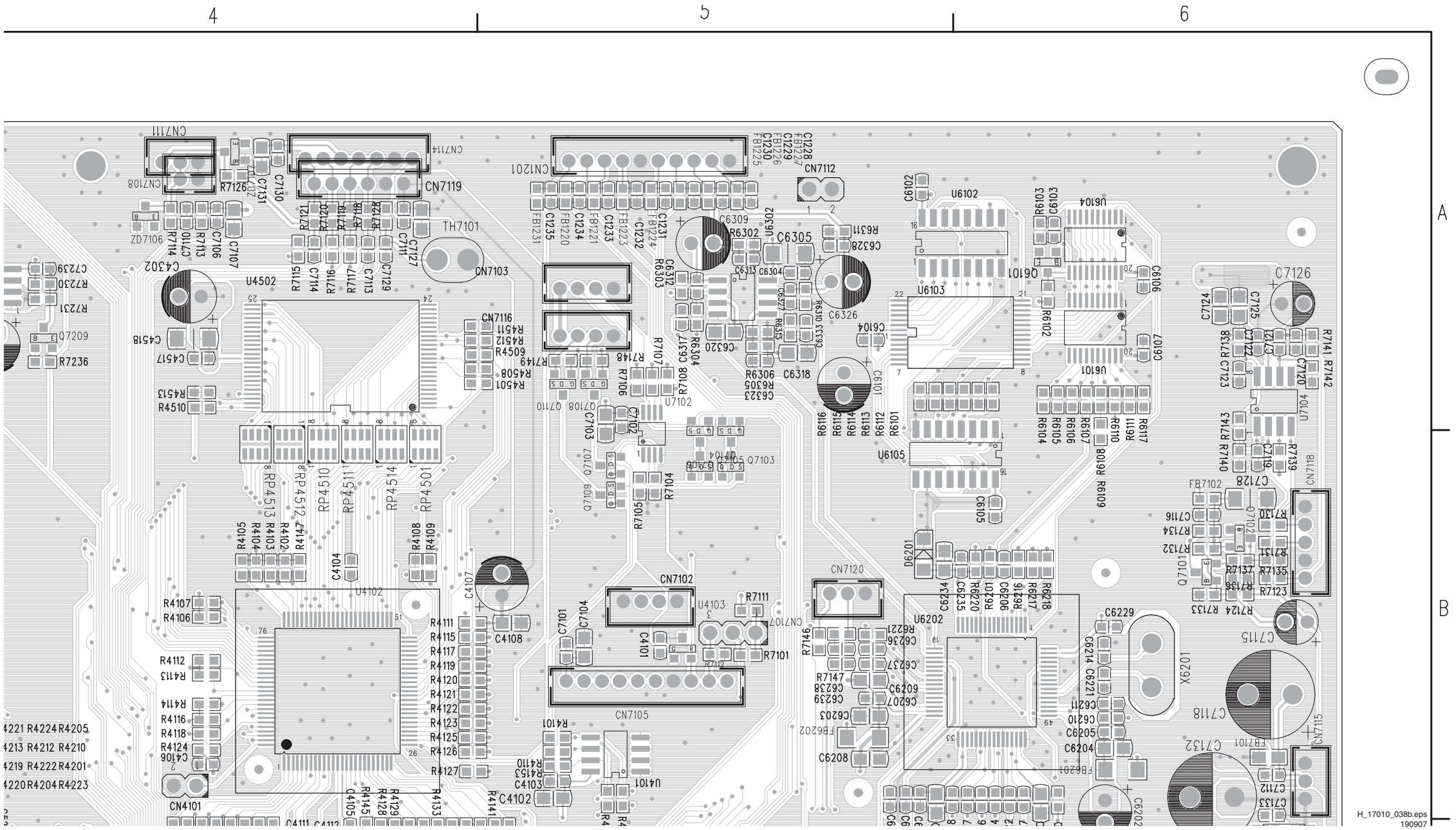

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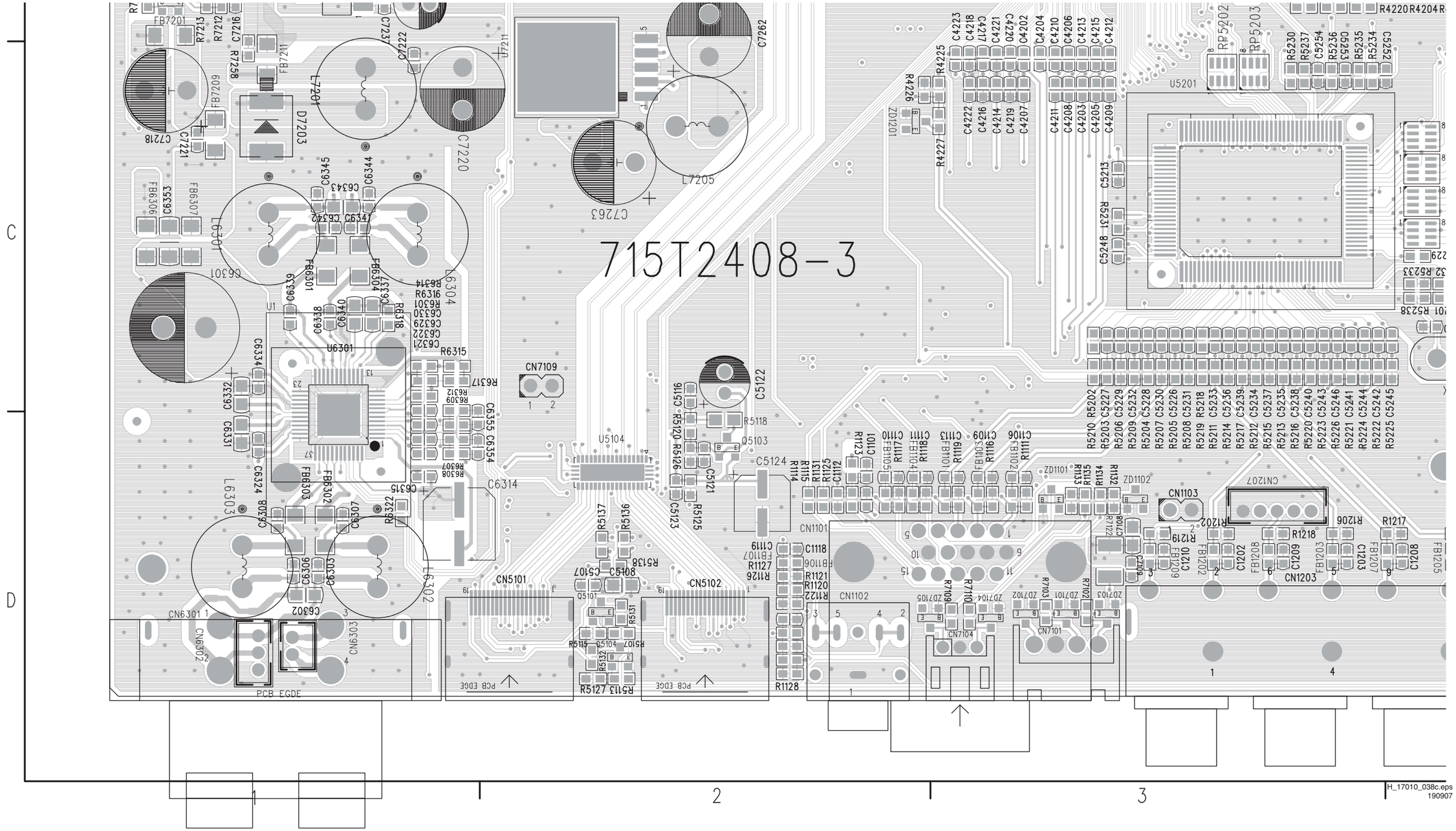

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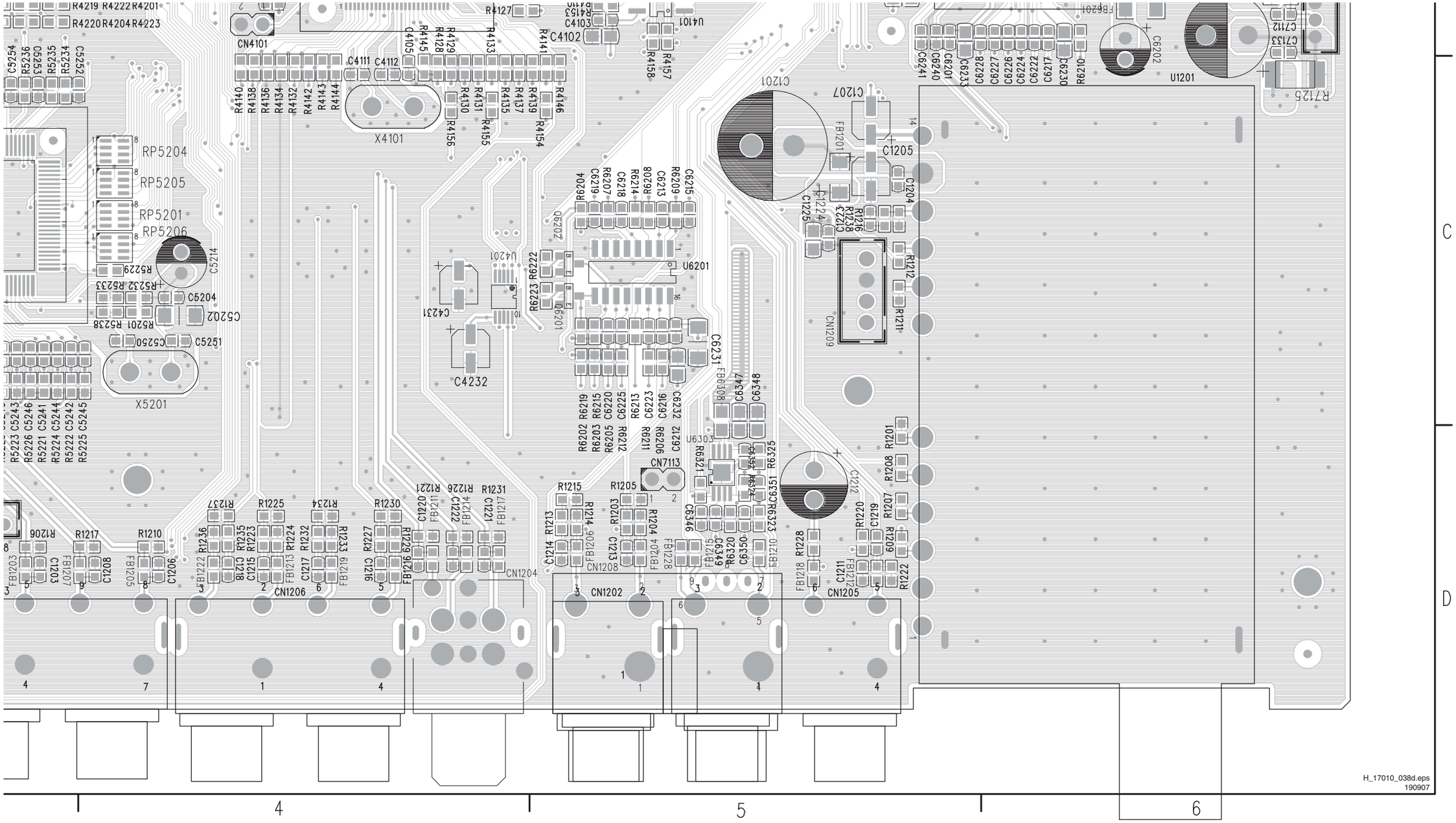

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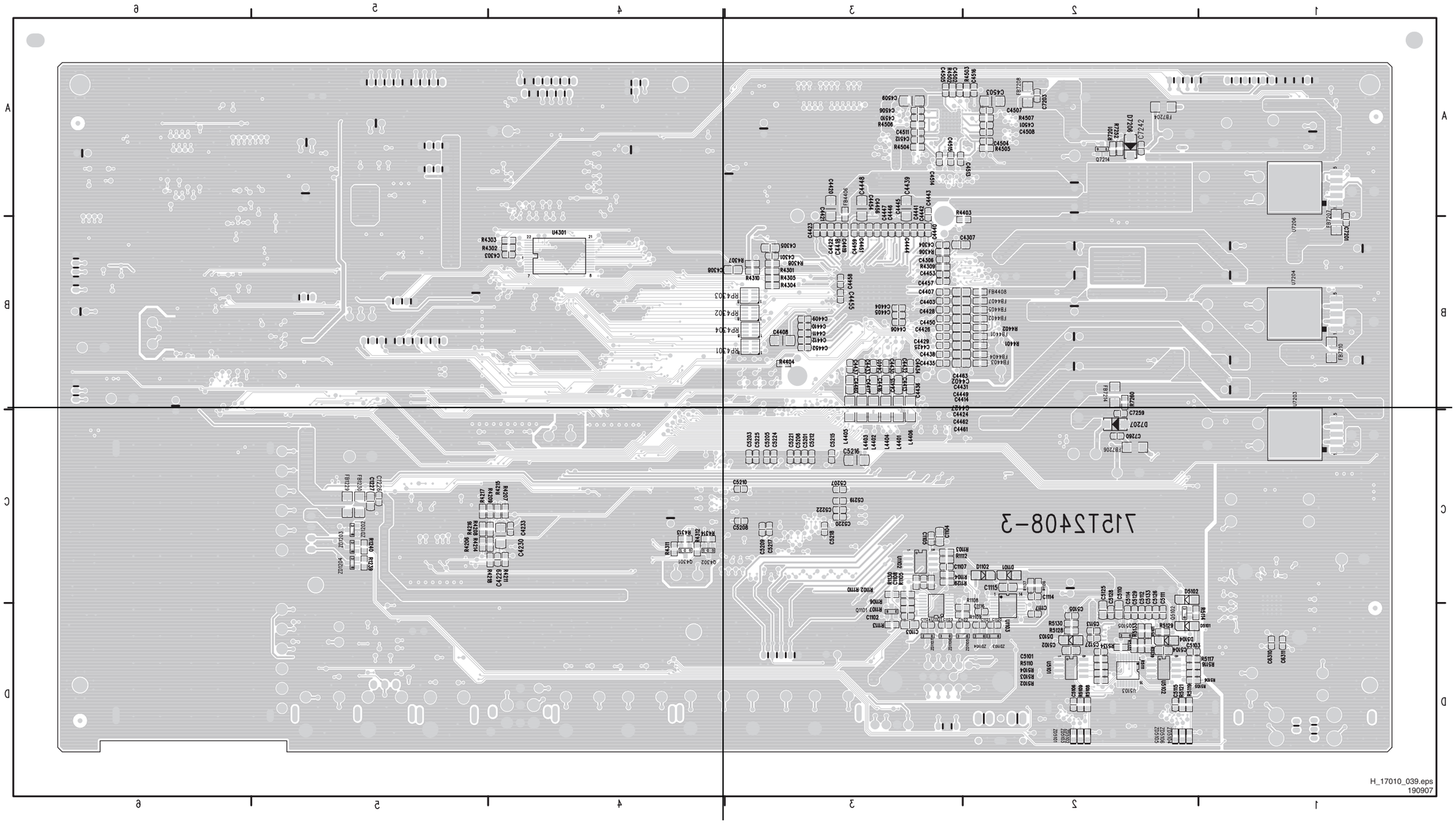

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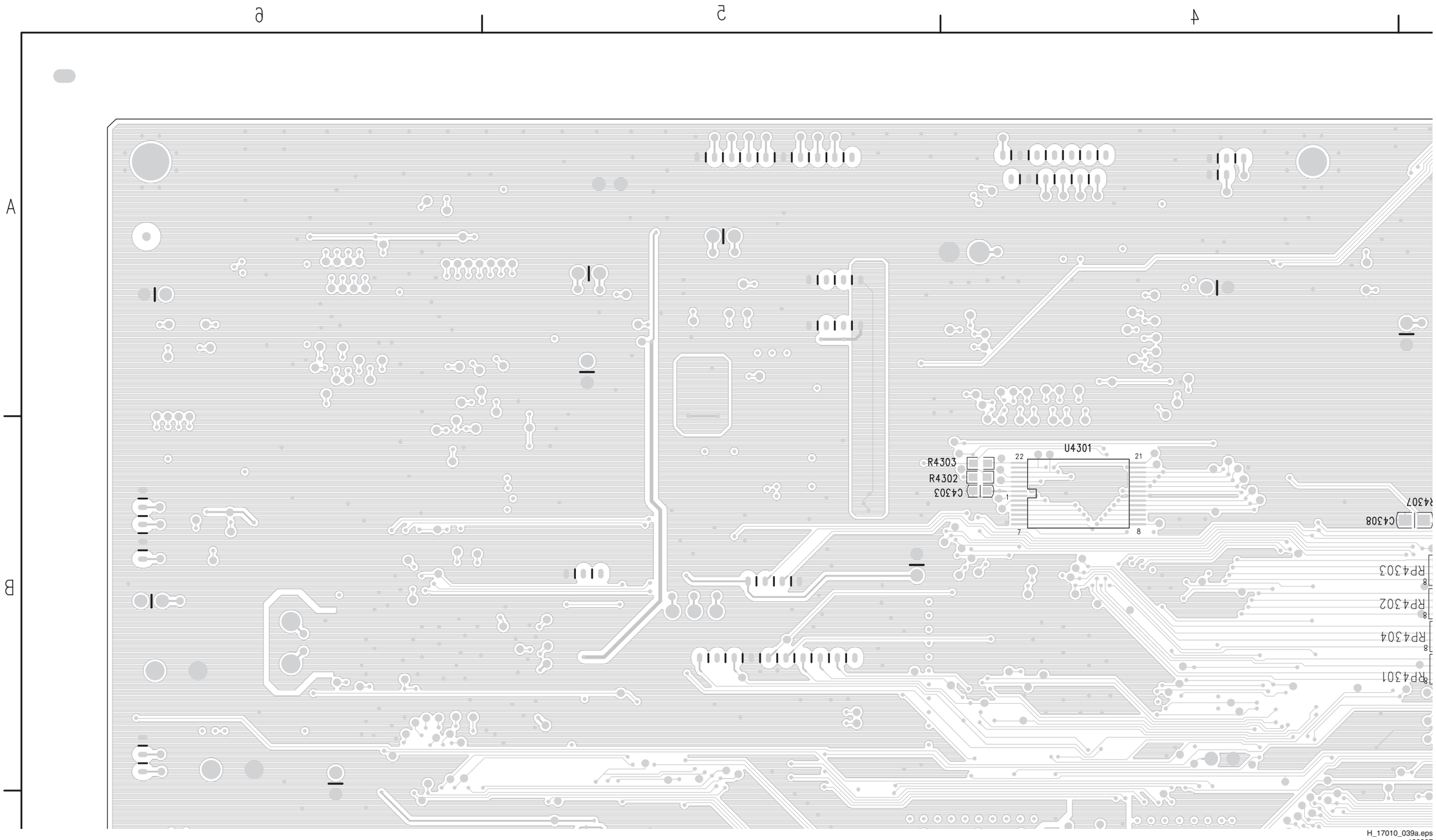
Layout TV & Scaler Board (Part 1 Bottom Side)



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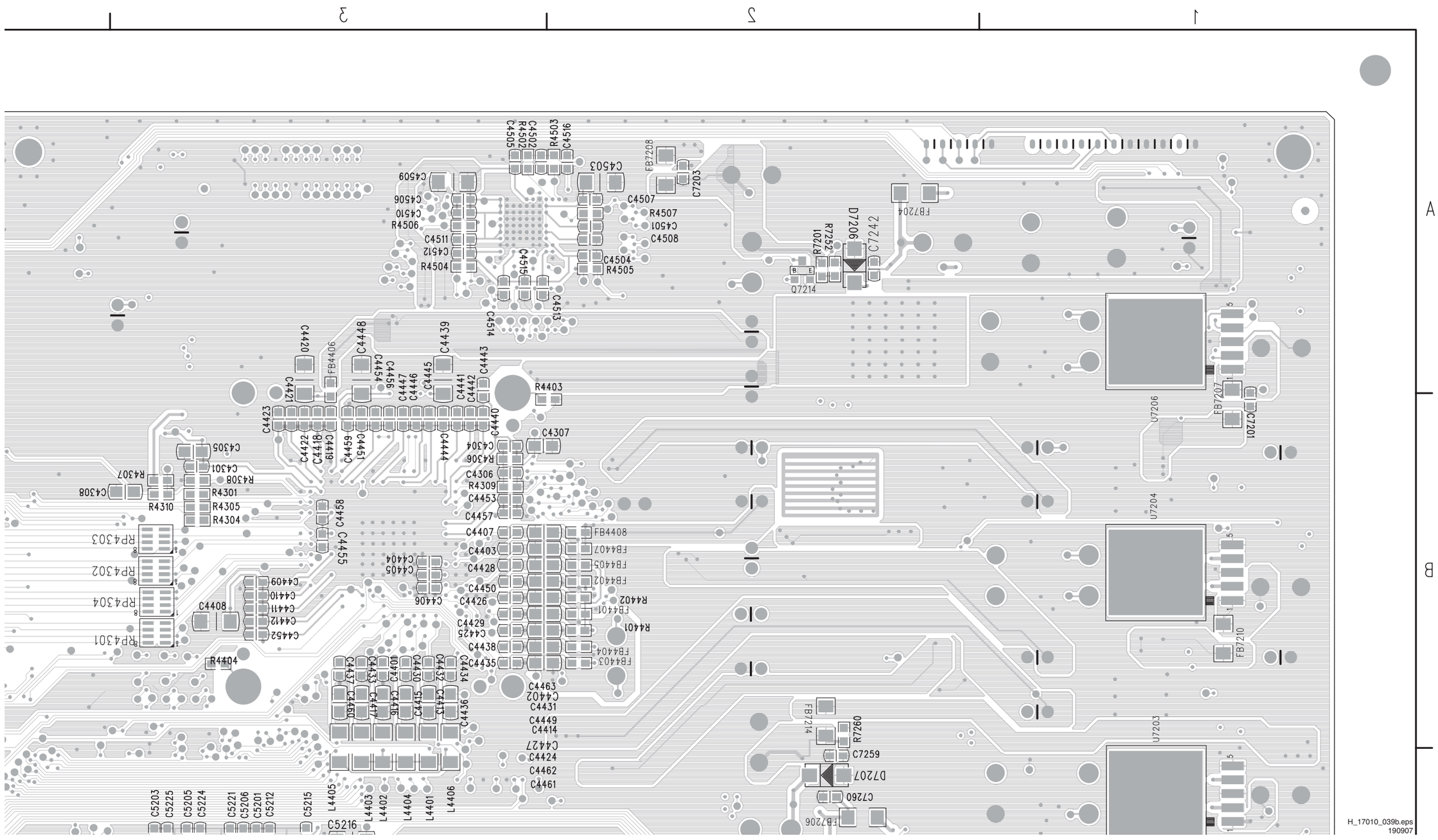
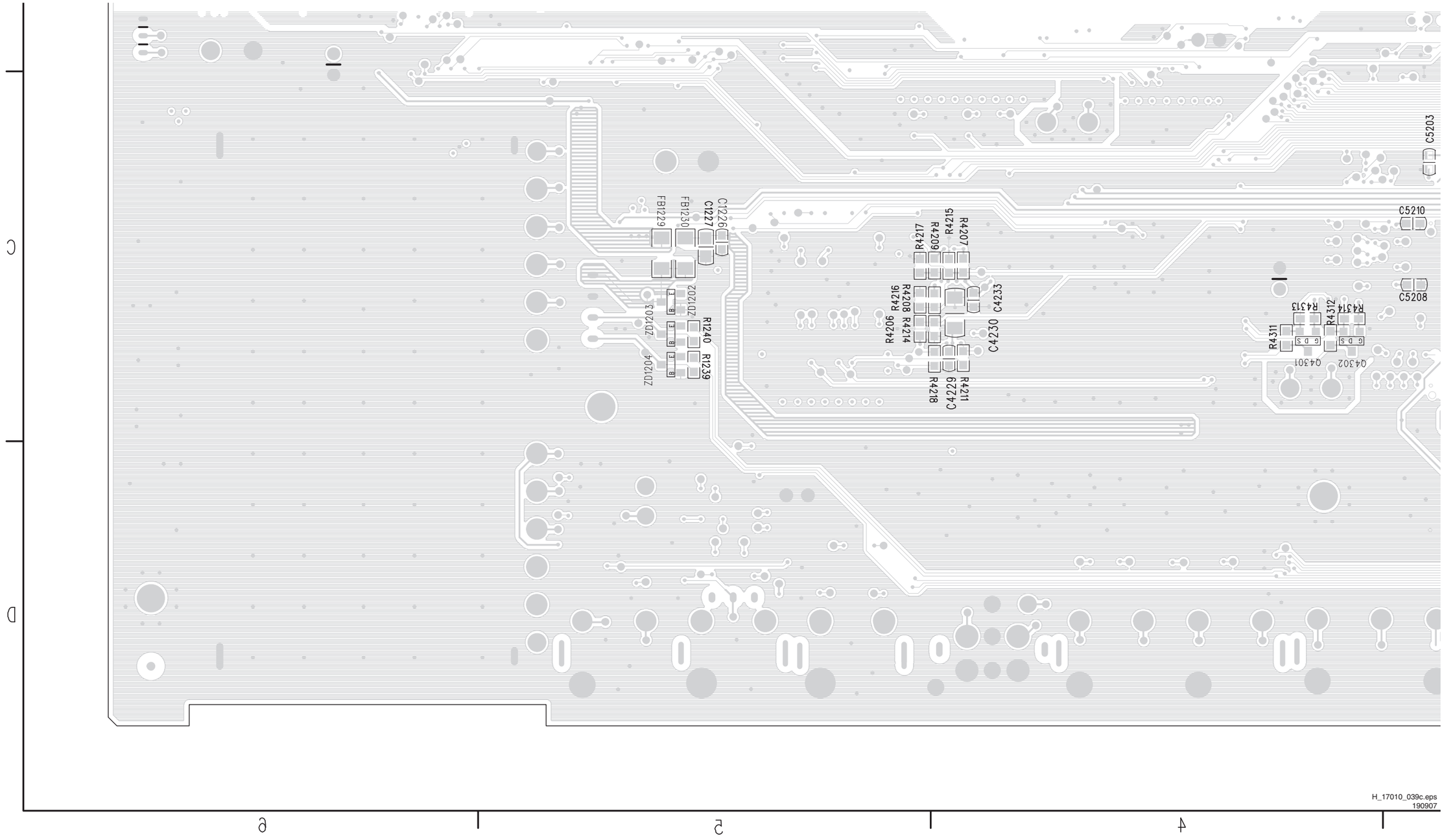
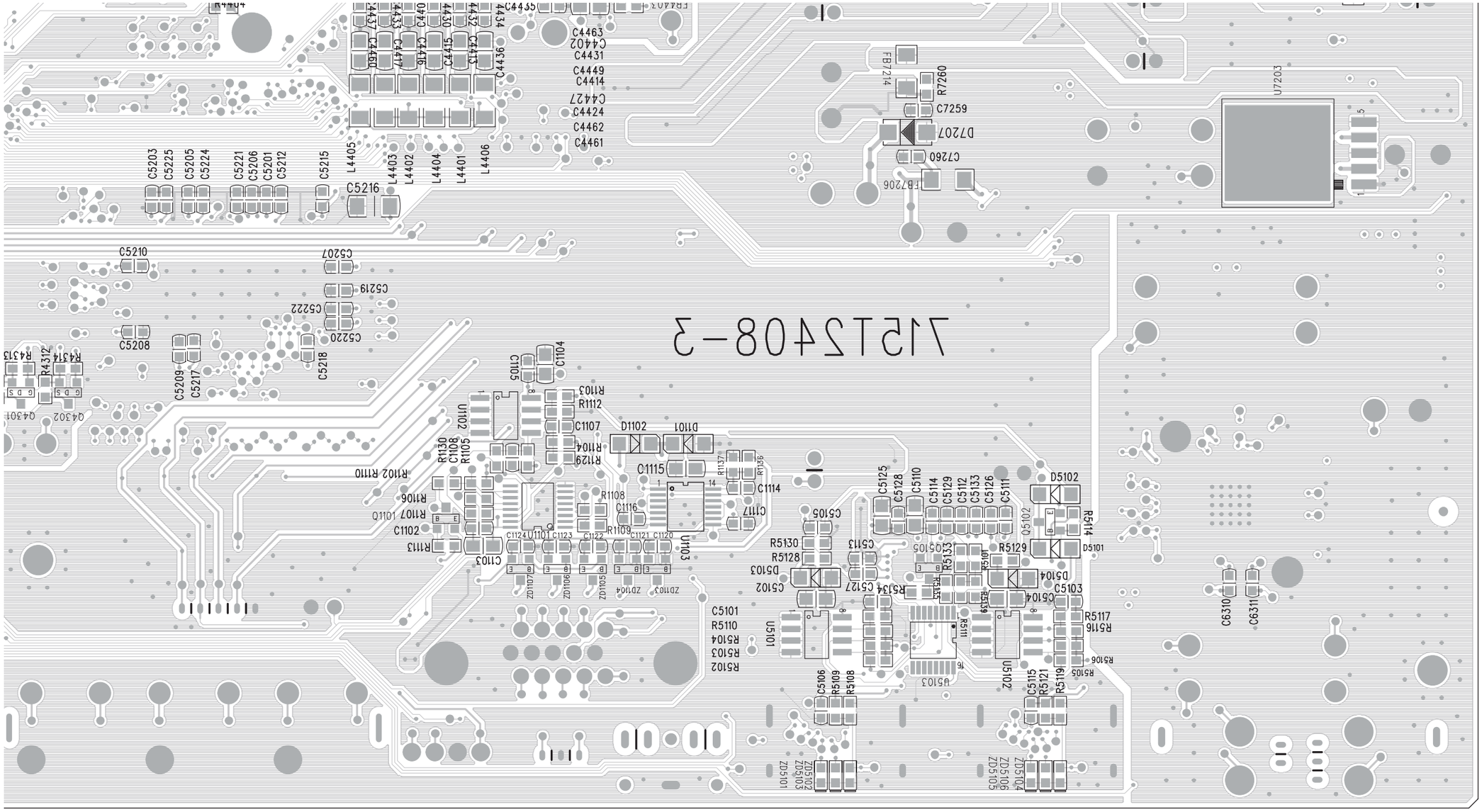


Layout TV & Scaler Board (Part 3 Bottom Side)



Layout TV & Scaler Board (Part 4 Bottom Side)



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8. Alignments

Index of this chapter:

8.1 General Alignment Conditions
8.2 Hardware Alignments
8.3 Software Alignments
8.4 Electrical Alignments
8.5 Serial Number Definition

Note:
The Service Modes are described in chapter 5. Menu navigation is done with the CURSOR UP, DOWN, LEFT or RIGHT keys of the remote control transmitter.

8.1 General Alignment Conditions

Perform all electrical adjustments under the following conditions:

- Power supply voltage (depends on region):
  - AP-NTSC: 120 V_{AC} or 230 V_{AC} / 50 Hz (± 10%).
  - AP-PAL-multi: 120 - 230 V_{AC} / 50 Hz (± 10%).
  - EU: 230 V_{AC} / 50 Hz (± 10%).
  - LATAM-NTSC: 120 - 230 V_{AC} / 50 Hz (± 10%).
  - US: 120 V_{AC} / 60 Hz (± 10%).
- Connect the set to the mains via an isolation transformer with low internal resistance.
- Allow the set to warm up for approximately 15 minutes.
- Measure voltages and waveforms in relation to correct ground (e.g. measure audio signals in relation to AUDIO_GND).
  Caution: It is not allowed to use heatsinks as ground.
- Test probe: Ri > 10 Mohm, Ci < 20 pF.
- Use an isolated trimmer/screwdriver to perform alignments.

8.2 Hardware Alignments

There are no hardware alignments foreseen for this chassis.

8.3 Software Alignments

With the software alignments of the Service Alignment Mode (SAM) the Tuner and RGB settings can be aligned.
To store the data: Use the RC button “Menu” to switch to the main menu and next, switch to “Stand-by” mode.

8.3.1 RGB Alignment

Before alignment, choose “TV MENU” -> “Picture” and set:

- “Brightness” to “50”.
- “Colour” to “50”.
- “Contrast” to “100”.

White Tone Alignment:

- Activate SAM.
- Select “RGB Align.” -> “White Tone” and choose a colour temperature.
- Use a 100% white screen as input signal and set the following values:
  - All “White point” values initial to “256”.
  - All “BlackL Offset” values to “0”.

In case you have a colour analyser:

- Measure with a calibrated (phosphor- independent) colour analyser (e.g. Minolta CA-210) in the centre of the screen. Consequently, the measurement needs to be done in a dark environment.
- Adjust the correct x, y coordinates (while holding one of the White point registers R, G or B on “256”) by means of decreasing the value of one or two other white points to the correct x, y coordinates (see table “White D alignment values”). Tolerance: dx: ± 0.004, dy: ± 0.004.
- Repeat this step for the other colour Temperatures that need to be aligned.
- When finished return to the SAM root menu and press STANDBY on the RC to store the aligned values to the NVM.

Table 8-1 White D alignment values

Value	Cool (11000 K)	Normal (9000 K)	Warm (6500 K)
x	0.278	0.289	0.314
y	0.278	0.291	0.319

If you do **not** have a colour analyser, you can use the default values. This is the next best solution. The default values are average values coming from production (statistics).

- Set the RED, GREEN and BLUE default values per temperature according to the values in the “Tint settings” table.
- When finished return to the SAM root menu and press STANDBY on the RC to store the aligned values to the NVM.

Table 8-2 Tint settings

Colour Temp.	R	G	B
Cool	243	256	249
Normal	251	256	220
Warm	256	241	189

Black Level Offset Alignment

- Activate SAM.
- Select “RGB Align.” -> “BlackL Offset” and choose a colour.
- Set all “BlackL Offset” values to “0”.
- When finished return to the SAM root menu and press STANDBY on the RC to store the aligned values to the NVM.

Note: For models with “Pixel Plus”, the “Black Offset” (black level offset) should NOT be changed in SAM. These offset values of RGB should be set to “0”, and should **NOT** be adjusted. Any adjustment of these values will affect the low light white balance.

ADC YPbPr Gray Scale Alignment
When the grey scale is not correct, use this alignment:

- Activate SAM.
- Select “NVM Editor”.
- Enter address “26(dec)” (ADR).
- Set value (VAL) to “197(dec) ± 25".
- Store (STORE) the value.

8.4 Electrical Alignments

8.4.1 PC Mode Adjustment

White balance adjustment

General set-up:
Equipment Requirements: Colour analyser.

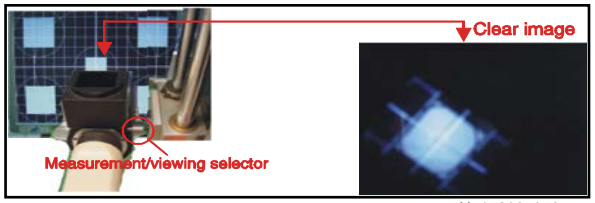

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Figure 8-1 Colour analyser

Access to factory mode (RS232) in auto-alignment system.The communication protocol switches to RS232.Input requirements:
Input Signal Type: PC signalAt factory mode apply 1024X768 / 60Hz with TVBAR100 pattern and set Brightness and contrast to be 50%.Activate AUTO-COLOR function for auto ADC offset and gain setup.

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Figure 8-2 TVBAR100

Colour Temp Alignment Apply a 1024*768 / 60Hz signal with white pattern, set brightness control at 100%, and contrast control at 50%. Adjust the R, G, B Sub-Gain, for the screen centre, the 1931 CIE chromaticity (x, y) co-ordinates shall be:

Table 8-3 Reading with Minolta CA-210

	Normal	Cool	Warm
CCT	**9300K**	**11500K**	**6500K**
x	0.283 0.015	0.273 0.015	0.314 0.015
y	0.297 0.015	0.280 0.015	0.324 0.015

If you have not CA-210, the following R,G and B values are for your reference.

Table 8-4 Reference value of R, G, and B

	Normal (9300K)	Cool (11500K)	Warm (6500K)
R	127	120	127
G	125	127	125
B	99	122	99

Luminance > 400 cd/m2 in the centre of the screen when both contrast and brightness are 100%. This group setting about colour temperature is also applied in HDMI 1/HDMI 2/CVI 1/ CVI 2/AV/Side AV/PC. It means that all these inputs use the same setting.Display quality adjustmentUse timing mode as described in 2.2, and uses the POPO (Pixel On Pixel Off) pattern to adjust the clock until no stripe and adjust the phase until clear picture. (AUTO ADJUST hot key: press VOLUME n and VOLUME + keys together for 1 second). Check all six preset modes.Check the analogue interface cable. Check the colour poor and noise condition of 64 gray scale pattern.

8.4.2 Comp Mode Adjustment

White-D adjustment General set-up:Equipment: Quantum Data Pattern Generator 801GD or 802G or 802R;
Apply 1080i/50Hz and the pattern TVBAR100 is shown in figure 1.Alignment method:Initial Set-up: Set Smart picture as “Personal” (Brightness=50, Color=50, Contrast=50);Access to factory OSD first, then to enable AUTO-COLOR to get Comp ADC OFFSET and Comp ADC GAIN. Check 64 gray scales can be distinguishable.Colour Temp Alignments: Check chromaticity (x, y) co-ordinates specification as in Table 6. Luminance> 400 cd/m2 in the centre of the screen in RICH mode.

8.5 Serial Number Definition

BOM Code:

Table 8-5 Panel type

PANEL SUPPLIER	Code
AU	1
CPT	2
LPL(LG)	3
QDI	4
CMO	5
HSD	6
SVA	7

9. Circuit Descriptions, Abbreviation List, and IC Data Sheets

Index of this chapter:

9.1 Introduction
9.2 Block Diagram
9.3 Abbreviation List
9.4 IC Data Sheets

Notes:

- Only **new** circuits (circuits that are not published recently) are described.
- Figures can deviate slightly from the actual situation, due to different set executions.

9.1 Introduction

This monitor uses a 1366 × 768 WXGA panel. It supports PC analogue and DVI (HDMI port) digital inputs up to 1360 × 768 60 Hz mode, and Y/C and CVBS. Also YPbPr signal inputs from SDTV to HDTV (480i, 480p, 720p, 1080i and 576i, 576p, 720p, 1080i) digital port for HDMI (480iW, 576iW, 480p, 576p, 480pW, 576pW, 720p 50/60 Hz, 1080i 50/60 Hz).
This F3 platform (development name) uses a Trident SVP-PX66 Scaler IC, which has an embedded ADC for HDTV/ Analog D-sub input up to 108 MHz/10bit, a digital port for CVBS and Y/C input, a TXT decoder, and a built-in dual 8/ 10-bit LVDS transmitter. It uses Trident SVP-PX66 as scaler engine, which has embedded Analog D-SUB, digital HDMI receiver, scaling input signal to panel OSD mapping and simple 3D de-interlacer. The extra DDR is to accomplish video frame rate conversion and to provide OSD and de-interlacer with enough memory. The video processing and some audio functions is done on the Scaler board.
The CPU (M30620SPGP) provides control signals such as backlight control, RC (remote control), detect keypad input, IIC I/O communication, TV tuning control, sound control, and power control.
The embedded video decoder is used to execute all video signals processing except for HDTV. The HDTV streams go through an embedded ADC converter. 3D comb and 3D de-interlacer are included in the Scaler. The Scaler can decode CC, TXT, and V-chip data to display.
One audio decoder MSP34XXG is used for TV sound processing, and output goes via the TPA3100D2PHPR D-class amplifier on the Scaler board.
The iTV board (i-Board) is a buy-in product, so it is a black-box for Service. When defective, replace the whole unit. It is for iTV “level two” system usage. The iTV “level two” is the system for a Hotel centre controller to control the monitor and take the service for the customer. It is a two-way communication between Hotel centre controller and customer. Beside that, the most important point is that all of the monitor display and work action is controlled by iTV. The iTV board can update SW version or communicate with the centre controller by RS232 board (RS232 and RJ45 interface).
Smart Box is the interface for a PHILIPS Smart Card (NEXT card, DVB-T card, etc.). It is an option item for the customer. This Smart Box is controlled by the iTV board and sends the signal from the Smart Card to the Scaler for display.

9.2 Block Diagram

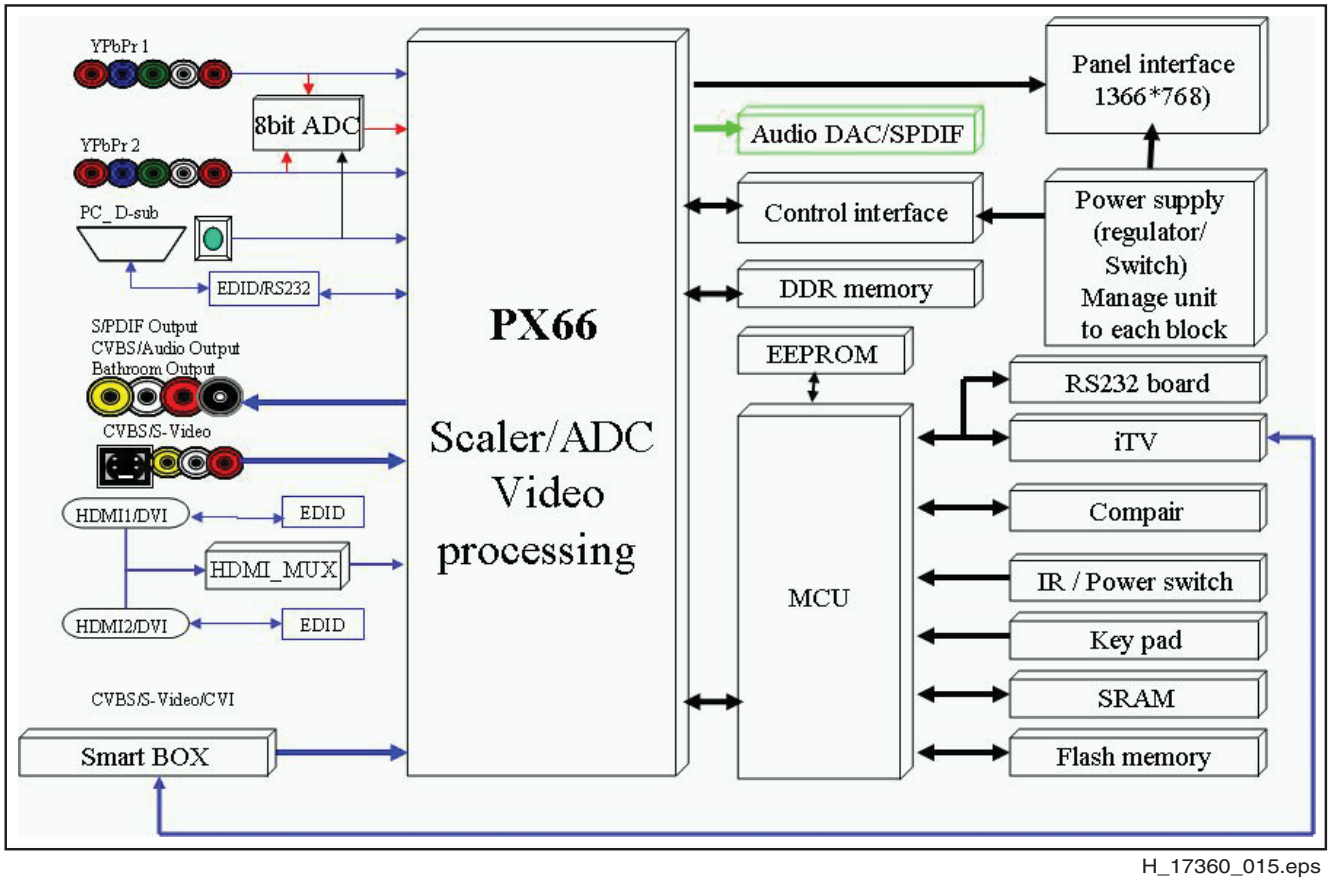

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Figure 9-1 Scaler board (video section) block diagram

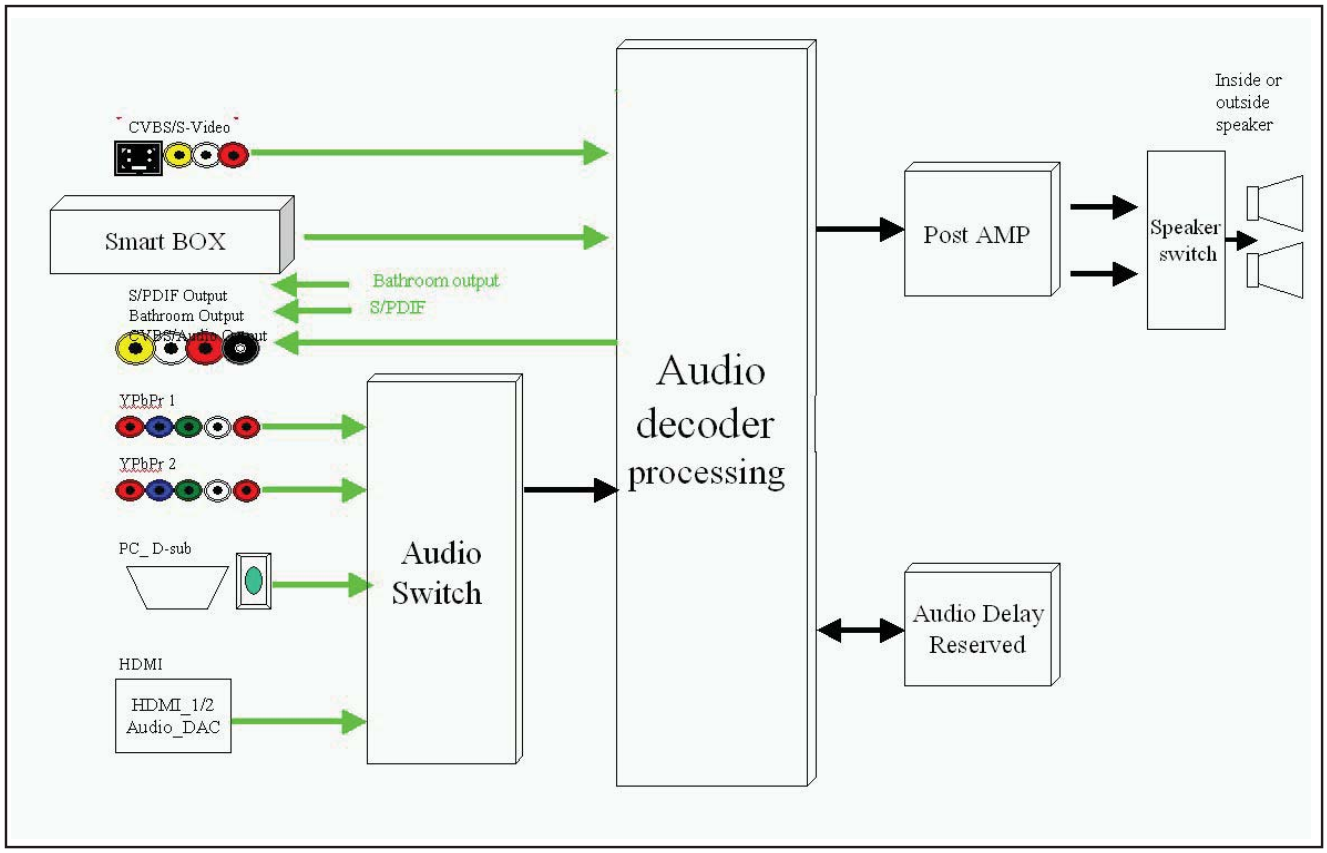


Figure 9-2 Scaler board (audio section) block diagram

9.3 Abbreviation List

1080i	1080 visible lines, interlaced
1080p	1080 visible lines, progressive scan
2CS	2 Carrier Sound
2DNR	Spatial (2D) Noise Reduction
3DNR	Temporal (3D) Noise Reduction
480i	480 visible lines, interlaced
480p	480 visible lines, progressive scan
AARA	Automatic Aspect Ratio Adaptation: algorithm that adapts aspect ratio to remove horizontal black bars; keeping up the original aspect ratio
ACI	Automatic Channel Installation: algorithm that installs TV channels directly from a cable network by means of a predefined TXT page
ADC	Analogue to Digital Converter
AFC	Automatic Frequency Control: control signal used to tune to the correct frequency
AGC	Automatic Gain Control: algorithm that controls the video input of the feature box
AM	Amplitude Modulation
AUO	Acer Unipack Optronics
AP	Asia Pacific
AR	Aspect Ratio: 4 by 3 or 16 by 9
ASD	Automatic Standard Detection
AV	Audio Video
B-SC1-IN	Blue SCART1 in
B-SC2-IN	Blue SCART2 in
B-TXT	Blue teletext
B/G	Monochrome TV system. Sound carrier distance is 5.5 MHz
BTSC	Broadcast Television System Committee
C-FRONT	Chrominance front input
CBA	Circuit Board Assembly (or PWB)
CL	Constant Level: audio output to connect with an external amplifier
CLUT	Colour Look Up Table
ComPair	Computer aided rePair
CSM	Customer Service Mode
CVBS	Composite Video Blanking and Synchronisation
CVBS-EXT	CVBS signal from external source (VCR, VCD, etc.)
CVBS-INT	CVBS signal from Tuner
CVBS-MON	CVBS monitor signal
CVBS-TER-OUT	CVBS terrestrial out
DAC	Digital to Analogue Converter
DBE	Dynamic Bass Enhancement: extra low frequency amplification
DFU	Directions For Use: owner's manual
DNR	Dynamic Noise Reduction
DRAM	Dynamic RAM
DSP	Digital Signal Processing
DST	Dealer Service Tool: special (European) remote control designed for service technicians
DTS	Digital Theatre Sound
DVD	Digital Versatile Disc
DVI	Digital Visual Interface
DW	Double Window
ED	Enhanced Definition: 480p, 576p
EEPROM	Electrically Erasable and Programmable Read Only Memory
EU	EUrope
EXT	EXTernal (source), entering the set by SCART or by cinches (jacks)
FBL	Fast Blanking: DC signal accompanying RGB signals
FBL-SC1-IN	Fast blanking signal for SCART1 in
FBL-SC2-IN	Fast blanking signal for SCART2 in
FBL-TXT	Fast Blanking Teletext
FLASH	FLASH memory
FM	Field Memory / Frequency Modulation
FMR	FM Radio
FRC	Frame Rate Converter
FRONT-C	Front input chrominance (SVHS)
FRONT-DETECT	Front input detection
FRONT-Y_CVBS	Front input luminance or CVBS (SVHS)
FTV	Flat TeleVision
G-SC1-IN	Green SCART1 in
G-SC2-IN	Green SCART2 in
G-TXT	Green teletext
H	H_sync to the module
HD	High Definition: 720p, 1080i, 1080p
HDMI	High Definition Multimedia Interface, digital audio and video interface
HP	Head Phone
I	Monochrome TV system. Sound carrier distance is 6.0 MHz
I2C	Integrated IC bus
I2S	Integrated IC Sound bus
IC	Integrated Circuit
IF	Intermediate Frequency
Interlaced	Scan mode where two fields are used to form one frame. Each field contains half the number of the total amount of lines. The fields are written in “pairs”, causing line flicker.
IR	Infra Red
IRQ	Interrupt ReQuest
Last Status	The settings last chosen by the customer and read and stored in RAM or in the NVM. They are called at start-up of the set to configure it according the customers wishes
LATAM	LATin AMerica
LC04	Philips chassis name for LCD TV 2004 project
LCD	Liquid Crystal Display
LED	Light Emitting Diode
L/L'	Monochrome TV system. Sound carrier distance is 6.5 MHz. L' is Band I, L is all bands except for Band I
LPL	LG Philips LCD
LS	Loud Speaker
LVDS	Low Voltage Differential Signalling, data transmission system for high speed and low EMI communication.
M/N	Monochrome TV system. Sound carrier distance is 4.5 MHz
MOSFET	Metal Oxide Semiconductor Field Effect Transistor
MPEG	Motion Pictures Experts Group
MSP	Multi-standard Sound Processor: ITT sound decoder
MUTE	MUTE Line
NAFTA	North American Free Trade Association: Trade agreement between Canada, USA and Mexico
NC	Not Connected
NICAM	Near Instantaneous Compounded Audio Multiplexing. This is a digital sound system, used mainly in Europe.
NTSC	National Television Standard Committee. Colour system used mainly in North America and Japan. Colour carrier NTSC M/N = 3.579545 MHz, NTSC 4.43 = 4.433619 MHz (this is a VCR norm, it is not transmitted off-air)
NVM	Non Volatile Memory: IC containing TV related data (for example, options)
O/C	Open Circuit

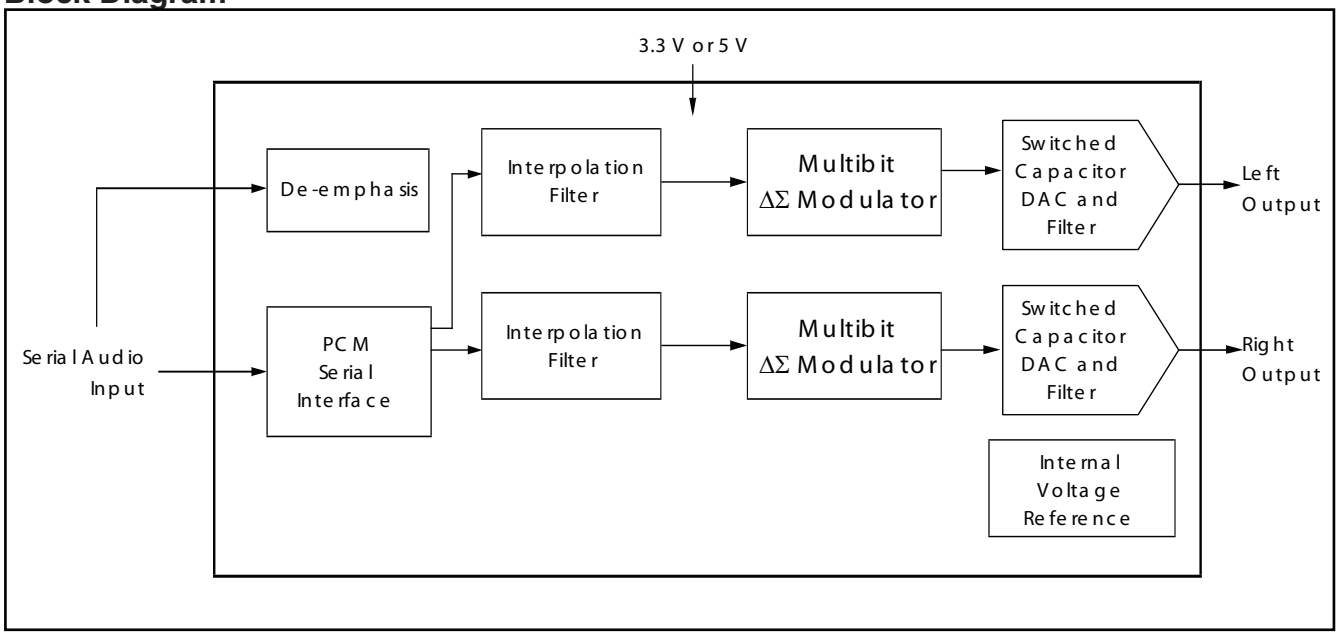
ON/OFF LED	On/Off control signal for the LED
OSD	On Screen Display
PAL	Phase Alternating Line. Colour system used mainly in Western Europe (colour carrier = 4.433619 MHz) and South America (colour carrier PAL M = 3.575612 MHz and PAL N = 3.582056 MHz)
PC	Personal Computer
PCB	Printed Circuit Board (or PWB)
PDP	Plasma Display Panel
PIG	Picture In Graphic
PIP	Picture In Picture
PLL	Phase Locked Loop. Used, for example, in FST tuning systems. The customer can directly provide the desired frequency
Progressive Scan	Scan mode where all scan lines are displayed in one frame at the same time, creating a double vertical resolution.
PWB	Printed Wiring Board (or PCB)
RAM	Random Access Memory
RC	Remote Control transmitter
RC5 (6)	Remote Control system 5 (6), the signal from the remote control receiver
RGB	Red, Green, and Blue. The primary colour signals for TV. By mixing levels of R, G, and B, all colours (Y/C) are reproduced.
RGBHV	Red, Green, Blue, Horizontal sync, and Vertical sync
ROM	Read Only Memory
SAM	Service Alignment Mode
SC	SandCastle: two-level pulse derived from sync signals
SC1-OUT	SCART output of the MSP audio IC
SC2-B-IN	SCART2 Blue in
SC2-C-IN	SCART2 chrominance in
SC2-OUT	SCART output of the MSP audio IC
S/C	Short Circuit
SCL	Clock signal on I2C bus
SD	Standard Definition: 480i, 576i
SDA	Data signal on I2C bus
SDI	Samsung Display Industry
SDM	Service Default Mode
SDRAM	Synchronous DRAM
SECAM	SEequence Couleur Avec Memoire. Colour system used mainly in France and Eastern Europe. Colour carriers = 4.406250 MHz and 4.250000 MHz
SIF	Sound Intermediate Frequency
SMPS	Switch Mode Power Supply
SND	SouND
SNDL-SC1-IN	Sound left SCART1 in
SNDL-SC1-OUT	Sound left SCART1 out
SNDL-SC2-IN	Sound left SCART2 in
SNDL-SC2-OUT	Sound left SCART2 out
SNDR-SC1-IN	Sound right SCART1 in
SNDR-SC1-OUT	Sound right SCART1 out
SNDR-SC2-IN	Sound right SCART2 out
SNDR-SC2-OUT	Sound right SCART2 out
SNDS-VL-OUT	Surround sound left variable level out
SNDS-VR-OUT	Surround sound right variable level out
SOPS	Self Oscillating Power Supply
S/PDIF	Sony Philips Digital InterFace
SRAM	Static RAM
STBY	Stand-by
SVHS	Super Video Home System
SW	Sub Woofer / SoftWare
THD	Total Harmonic Distortion
TXT	TeleteXT
uP	Microprocessor
VL	Variable Level out: processed audio output toward external amplifier
VCR	Video Cassette Recorder
VGA	Video Graphics Array
WD	Watch Dog
WYSIWYR	What You See Is What You Record: record selection that follows main picture and sound
XTAL	Quartz crystal
YPbPr	Component video (Y= Luminance, Pb/Pr= Colour difference signals B-Y and R-Y, other amplitudes w.r.t. to YUV)
Y/C	Video related signals: Y consists of luminance signal, blanking level and sync; C consists of colour signal.
Y-OUT	Luminance-signal
YUV	Baseband component video (Y= Luminance, U/V= Colour difference signals)

9.4 IC Data Sheets

This section shows the internal block diagrams and pin layouts of ICs that are drawn as “black boxes” in the electrical diagrams (with the exception of “memory” and “logic” ICs).

9.4.1 Diagram B1A, CS4344/5/6/8

Block Diagram



Pin Configuration

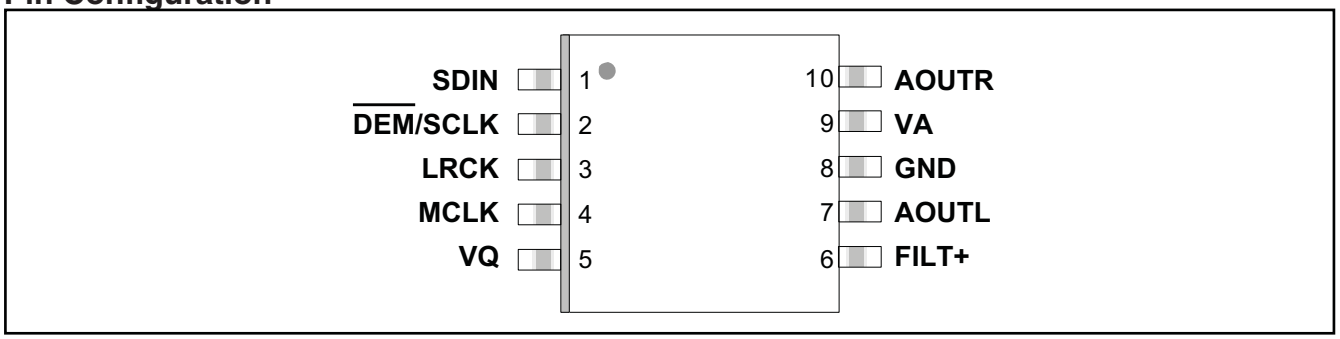


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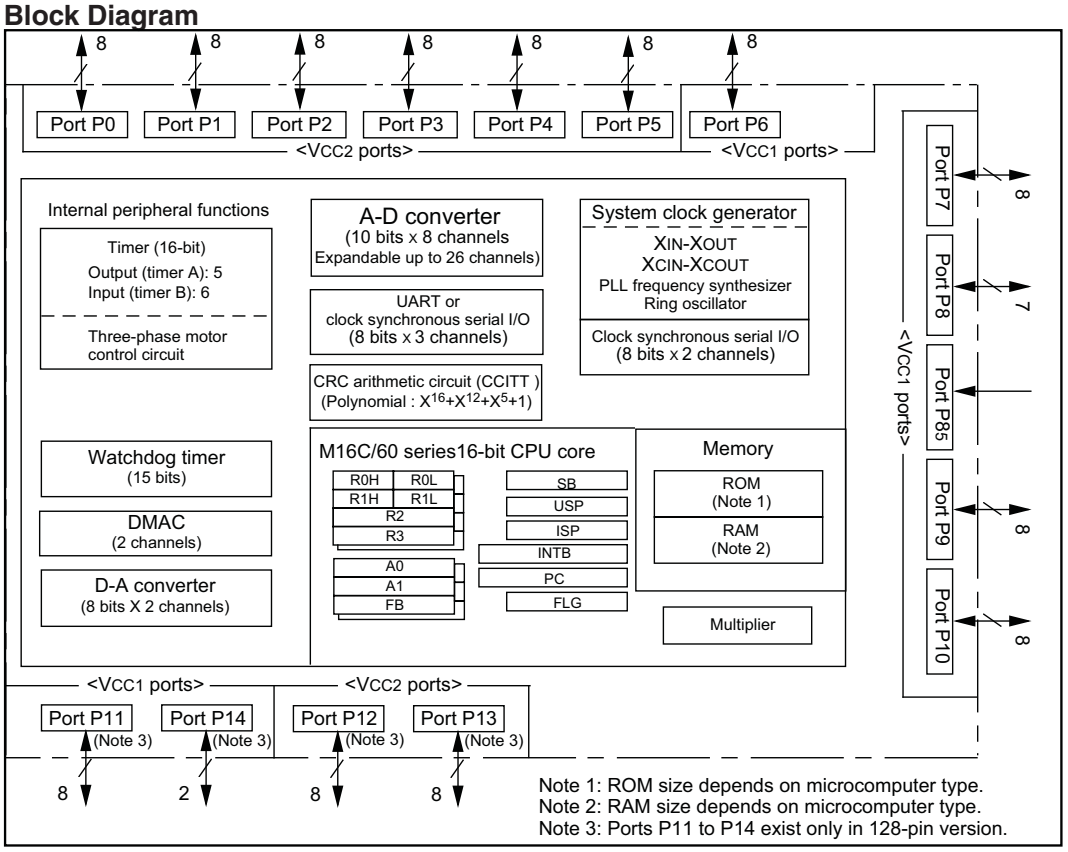
Figure 9-3 Internal block diagram and pin configuration

9.4.2 Diagram B2A, M16C/62P

Block Diagram



Pin Configuration

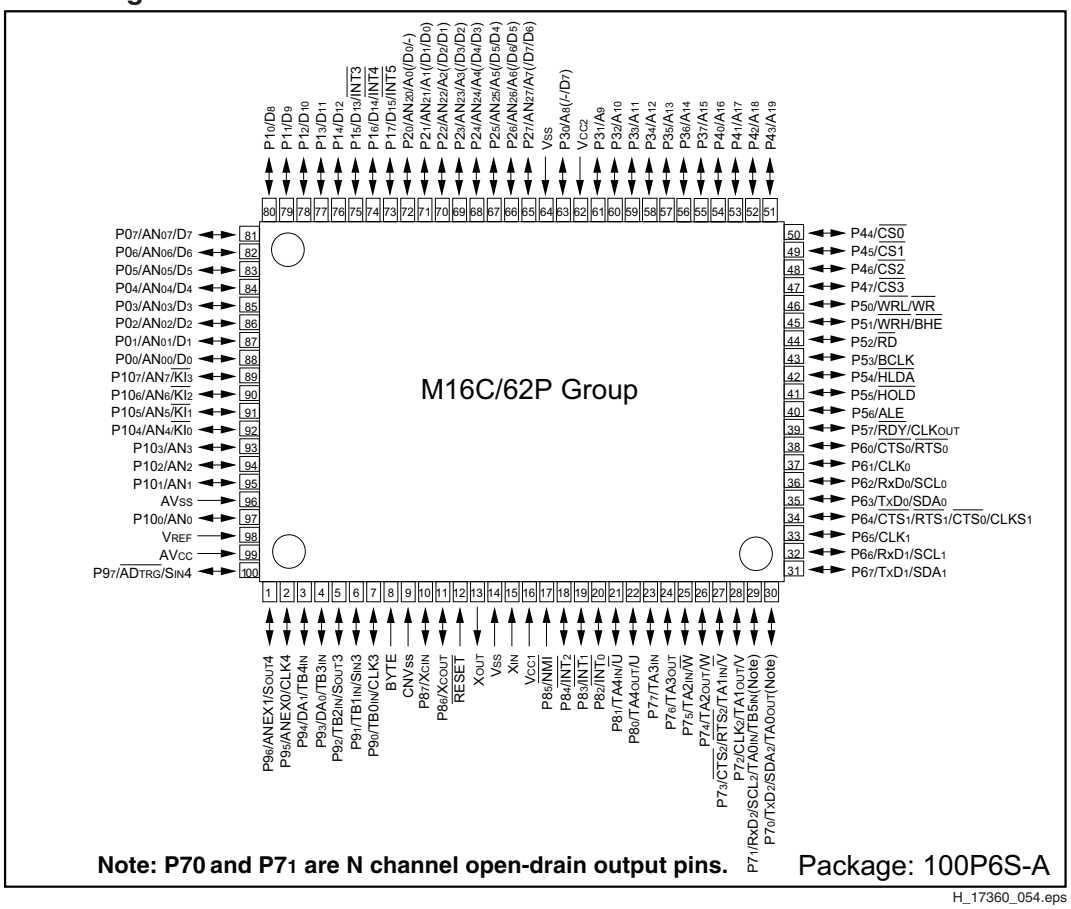


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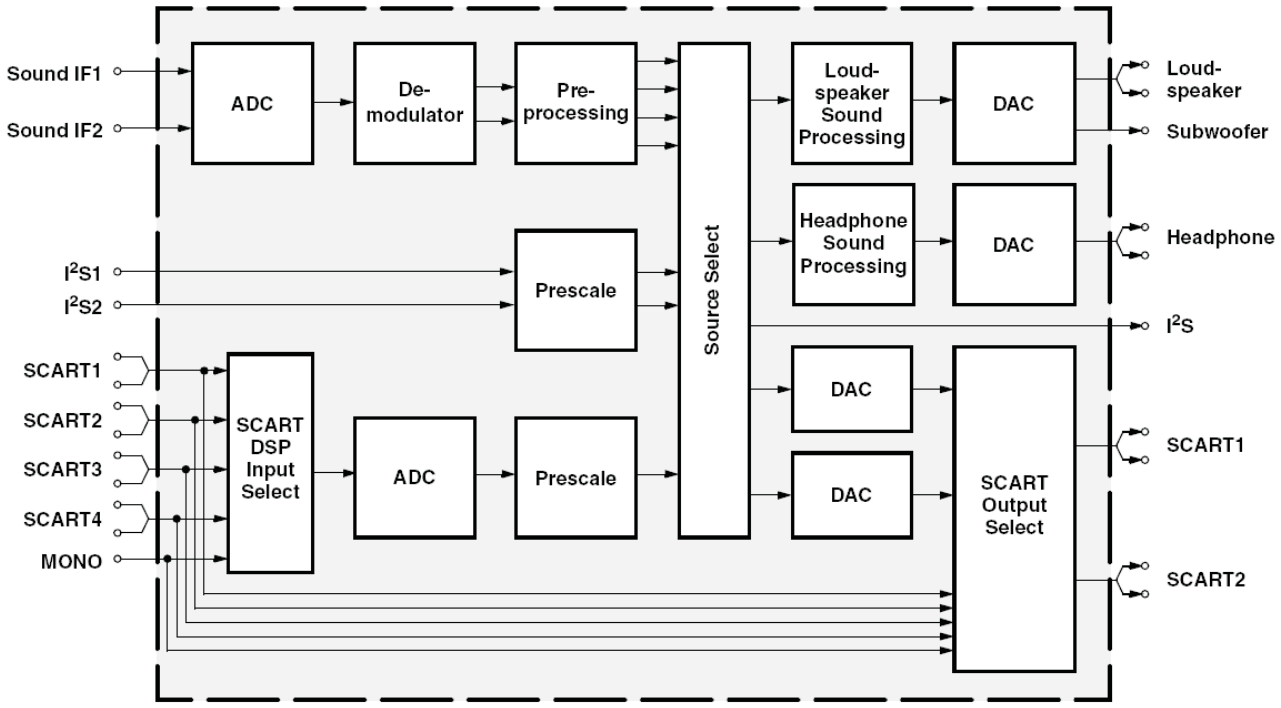
Figure 9-4 Internal block diagram and pin configuration

9.4.3 Diagram B3A, MSP 34x0G

Block Diagram



Pin Configuration

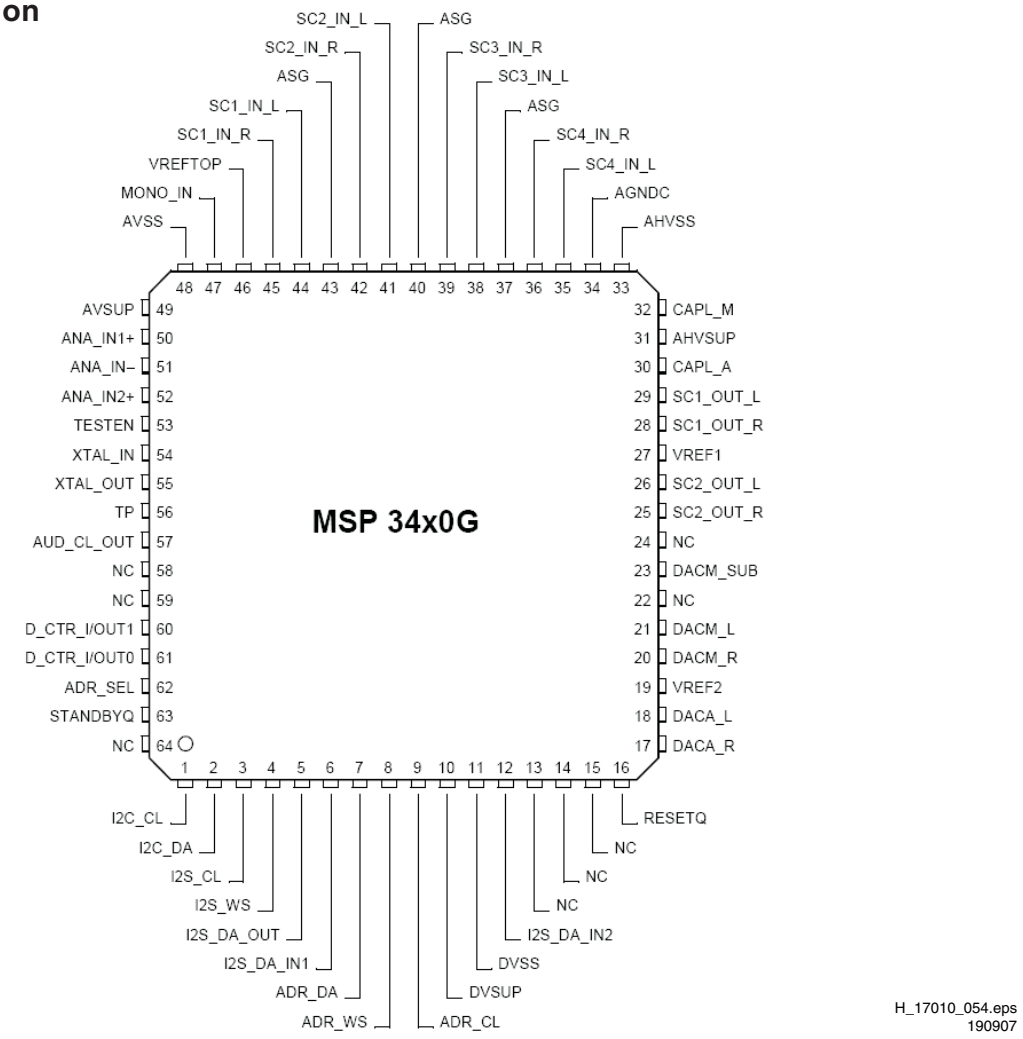
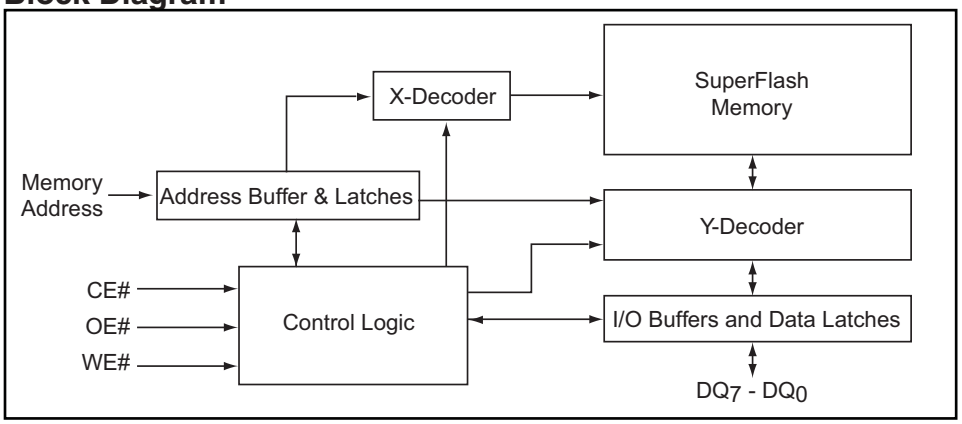


Figure 9-5 Internal block diagram and pin configuration

9.4.4 Diagram B4A, SSTP39VF088

Block Diagram



Pin Configuration

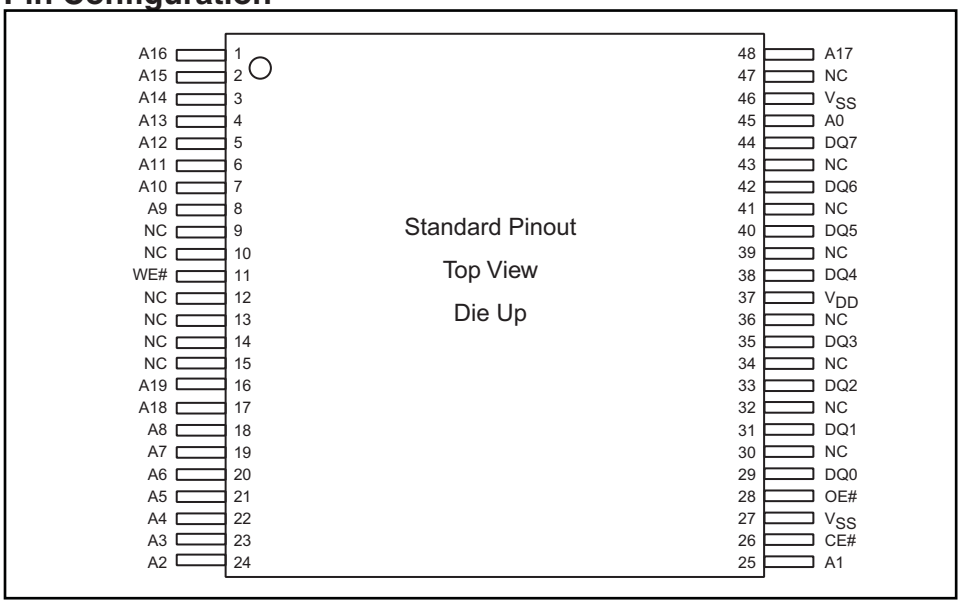


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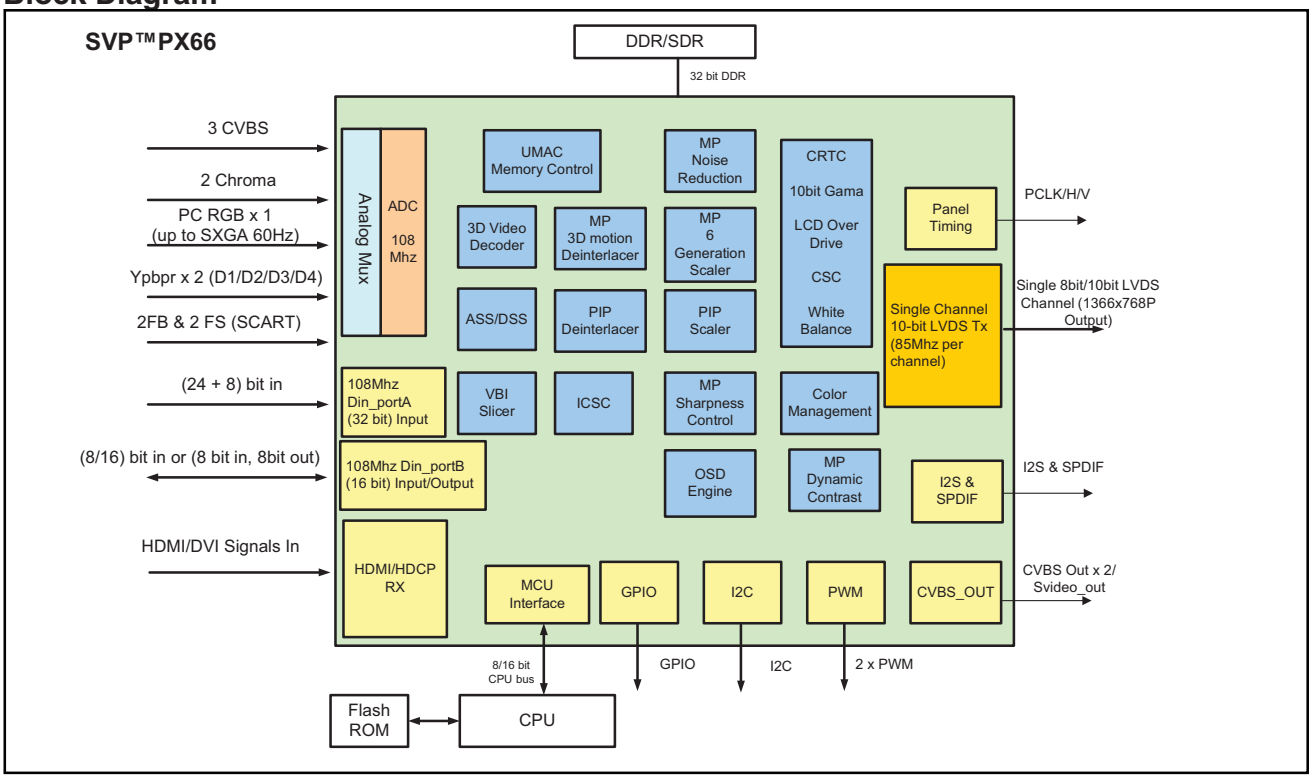
Figure 9-6 Internal block diagram and pin configuration

9.4.5 Diagram B5A, SVP_PX66LX66

Block Diagram



Pin Configuration

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
A	MD27	MD26	MD25	MD23	MD21	DQM2	MD19	MD12	DQM1	MD7	MD6	DQM0	MD2	TA1P	TB1P	TC1P	TCLK1P	TD1P	TE1P	Revd	A
B	DQM3	DQS3	VSS	VDDM	MD22	DQS2	MD18	MD13	DQS1	MD8	MD5	**DQS0**	MD1	**TA1M**	**TB1M**	TC1M	**TCLK1M**	TD1M	TE1M	**Revd**	B
C	**MD28**	**MD29**	**MD30**	**VDDM**	MD24	VSS	**MD17**	MD14	**VSS**	MD9	**MD4**	VSS	**MD0**	VDDC	VDDC	**LVDS_VSSD**	LVDS_VDDO	**LVDS_VSSO**	**LVDS_VSSO**	Revd	C
D	**MCK0**	**VSS**	**MD31**	**VDDM**	VDDM	MD20	MD16	MD15	MD11	**MD10**	VDDM	**MD3**	VDDC	**VDDC**	**VDDC**	LVDS_VDDD	**LVDS_VDDO**	LVDS_VDDP	Rsvd	**Rsvd**	D
E	MCK0#	VDDR	MVREF	**VSSR**	**VDDM**	VDDM	VSSR	**VDDR**	VDDM	VDDM	VDDM	**VDDM**	**VDDC**	**VDDC**	**VDDC**	**LVDS_VSSA**	**LVDS_VDDA**	**LVDS_VSSP**	**Rsvd**	**Rsvd**	E
F	MA11	MA10	MA9	**MA8**	**VDDM**											V5SF	TESTMODE	RESET	Rsvd	Rsvd	F
G	MA4	MA5	MA6	MA7	**VDDM**											VDDC	PWM0	INTN	Rsvd	Rsvd	G
H	MA3	MA2	MA1	MA0	**VDDC**			VSS	VSS	VSS	VSS	VSS	VSS			VDDC	SDA	SCL	Rsvd	Rsvd	H
J	CAS#	RAS#	CS1#	CS0#	VDDC			VSS	VSS	VSS	VSS	VSS	VSS			VDDC	CPU_CS	ALE	WR#	RD#	J
K	WE#	CLKE	BA0	BA1	**VDDC**			VSS	VSS	VSS	VSS	VSS	VSS			**VDDC**	AD4	AD5	AD6	AD7	K
L	RXC+	RXC-	TMDS_GND	PVCC	**VSS**			VSS	VSS	VSS	VSS	VSS	VSS			VDDH	AD0	AD1	AD2	AD3	L
M	RX0+	RX0-	TMDS_GND	AVCC	**ANTSTO**			VSS	VSS	VSS	VSS	VSS	VSS			**VDDH**	**ADDR7**	**ADDR6**	**ADDR5**	**ADDR4**	M
N	RX1+	RX1-	TMDS_GND	AVCC	**AVCC**			VSS	VSS	VSS	VSS	VSS	VSS			**VDDH**	**ADDR0**	**ADDR1**	**ADDR2**	**ADDR3**	N
P	RX2+	RX2-	TMDS_GND	AVCC	**DGND**											**VDDH**	**VS**	**VSS**	**HS**	**Rsvd**	P
R	TMDS_GND	AVDDLLPLL	PAVSS2	PLF2	**REGVCC**											**VDDC**	**Rsvd**	**Rsvd**	**DPB_9**	**DPB_8**	R
T	AVSSLLPLL	PAVSS1	PAVDD1	PAVDD2	**AVSS_ADC1**	AVSS_ADC4	AVSS_ADC2	AVDD_ADC3	AVSS_ADC3	PWR5V	DSCL	**VDDH**	**VDDH**	**VDDC**	**VDDC**	**VSS**	**DPB_10**	**DPB_11**	**DPB_CLK**	**DPB_12**	T
U	AVDDAPLL	MLF1	AVDD3_OUTBUF	FB2	**AVDD_ADC1**	AVDD_ADC4	AVDD_ADC2	PC_R	**AVDD3_ADC2**	AIN_VS	DSDA	**WS**	**DPA_22**	**DPA_15**	**DPA_14**	**DPA_8**	**DPA_7**	**DPB_15**	**DPB_14**	**DPB_13**	U
V	AVSSAPLL	CVBS_OUT2	AVDD3_BG_ASS	FS1	**VREFN_1**	Y_G1	VREFN_2	PR_R3	**C**	AIN_HS	SCDT	**SD0**	**DPA_21**	**DPA_16**	**DPA_13**	**DPA_9**	**DPA_6**	**DPA_1**	**DPB_HS**	**DPB_VS**	V
W	XTALI	**CVBS_OUT1**	AVSS_BG_ASS	FS2	**VREFP_1**	Y_G2	VREFP_2	PR_R2	**PB_B1**	PC_B	AUDIOCLK	**SPDIF**	**DPA_20**	**DPA_17**	**DPA_12**	**DPA_10**	**DPA_5**	**DPA_2**	**DPA_0**	**DPB_DE**	W
Y	XTALO	AVSS_OUTBUF	AVDD3_ADC1	CVBS1	**FB1**	Y_G3	PC_G	PR_R1	**PB_B2**	PB_B3	SCK	DPA_23	DPA_19	DPA_18	DPA_CLK	DPA_11	DPA_4	DPA_3	DPA_HS	**DPA_VS**	Y
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	

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Figure 9-7 Internal block diagram and pin configuration

10. Spare Parts List

Sets Listed per Model Number (CTN)

32HF7445/93

1050	9965 100 05963	LC320W01-SLB1
1053	9965 100 06752	TV & Scaler assy [B]
1054	9965 100 04965	Power Supply assy [A]
1055	9965 100 05945	Side I/O assy [D]
1056	9965 100 06765	IR & LED assy [J]
1057	9965 100 05947	Keyboard & Ctrl assy [E]
1058	9965 100 06767	i-Board assy [HC]
1185	9965 100 06747	Loudspeaker 16Ω 5W
1186	9965 100 06747	Loudspeaker 16Ω 5W
8351	9965 100 05928	Cable 3p/430/3p
8352	9965 100 06742	Cable 6*2p-6+6p
8353	9965 100 05930	Cable 10p/330/10p
8354	9965 100 04659	Cable 11p/100/11p
8355	9965 100 06743	Cable 3+3p-3p
8356	9965 100 06744	Cable 4p-4p 230mm
8357	9965 100 06745	Cable 5p-5p 180mm
8801	9965 100 05931	Cable 2p/470/
8802	9965 100 05932	Cable 3p/300/
8803	9965 100 05933	Cable 30p/140/ LVDS
8804	9965 100 06784	Cable 110mm 75118
8806	9965 100 05934	Cable 130+400mm

32HF7445/97

1050	9965 100 05963	LC320W01-SLB1
1053	9965 100 08390	TV & Scaler assy [B]
1054	9965 100 04965	Power Supply assy [A]
1055	9965 100 05945	Side I/O assy [D]
1056	9965 100 06765	IR & LED assy [J]
1057	9965 100 05947	Keyboard & Ctrl assy [E]
1185	9965 100 05935	Loudspeaker 16Ω 5W
1186	9965 100 05935	Loudspeaker 16Ω 5W
8353	9965 100 05930	Cable 10p/330/10p
8354	9965 100 04659	Cable 11p/100/11p
8355	9965 100 06743	Cable 3+3p-3p
8356	9965 100 06744	Cable 4p-4p 230mm
8357	9965 100 06745	Cable 5p-5p 180mm
8804	9965 100 05936	Wire
SZ003	9965 100 05931	Cable 2p/470/
SZ004	9965 100 05932	Cable 3p/300/
SZ005	9965 100 05928	Cable 3p/430/3p
SZ006	9965 100 06742	Cable 6*2p-6+6p
SZ007	9965 100 05934	Cable 130+400mm
SZ009	9965 100 08393	i-Board assy [HC]

Side I/O [D]

Various

FB031	9965 000 43339	Bead 120Ω/6A
FB032	9965 000 43339	Bead 120Ω/6A

⊣⊢

C031	9965 000 42722	6n8 50V X7R 0603
C032	9965 000 42722	6n8 50V X7R 0603
C036	9965 000 43338	820pF 5% 50V
CN031	9965 000 43812	RCA Jack 1*3 Y/Wh/Rd
CN032	9965 000 43813	Mini Din Jack 4p Bk
CN033	9965 000 43816	Phone Jack 3.5mm 7p Bk

⊸WW⊸

R031	9965 000 42212	0Ω 5% 1/10W
R032	9965 000 42212	0Ω 5% 1/10W
R033	9965 000 43336	75Ω 5% 1/10W
R034	9965 000 43336	75Ω 5% 1/10W
R035	9965 000 42212	0Ω 5% 1/10W
R036	9965 000 43336	75Ω 5% 1/10W
R037	9965 000 43487	3.3kΩ 5% 1/10W
R038	9965 000 43487	3.3kΩ 5% 1/10W
R039	9965 000 42277	47kΩ 5% 1/10W
R040	9965 000 42277	47kΩ 5% 1/10W
R041	9965 000 42277	47kΩ 5% 1/10W
R042	9965 000 42277	47kΩ 5% 1/10W

Keyboard & Control Panel [E]

Various

SW001	9965 000 42278	Switch Tact SKQGAB
SW001	9965 000 42279	Switch SFKQGMA2125
SW002	9965 000 42278	Switch Tact SKQGAB
SW002	9965 000 42279	Switch SFKQGMA2125
SW003	9965 000 42278	Switch Tact SKQGAB
SW003	9965 000 42279	Switch SFKQGMA2125
SW004	9965 000 42278	Switch Tact SKQGAB
SW004	9965 000 42279	Switch SFKQGMA2125
SW005	9965 000 42278	Switch Tact SKQGAB
SW005	9965 000 42279	Switch SFKQGMA2125
SW006	9965 000 42278	Switch Tact SKQGAB
SW006	9965 000 42279	Switch SFKQGMA2125

⊣⊢

C001	9965 000 42228	100nF 16V X7R 0603
C001	9965 000 43488	100nF 25V 0603
C002	9965 000 42228	100nF 16V X7R 0603
C002	9965 000 43488	100nF 25V 0603
C003	9965 000 42228	100nF 16V X7R 0603
C004	9965 000 42228	100nF 16V X7R 0603
C005	9965 000 42228	100nF 16V X7R 0603

⊸WW⊸

R001	9965 000 40053	1KΩ 1/10W 5%
R002	9965 000 42277	47kΩ 5% 1/10W
R003	9965 000 42253	18k Ohm 5% 0.1W
R004	9965 000 42734	3.6kΩ 5% 1/10W
R005	9965 000 43490	5.6kOhm 5% 0.1W

IR & LED Panel [J]

⊸WW⊸

R0201	9965 000 42662	330Ω 5% 1/10W
R0202	9965 000 42218	220Ω 5% 1/10W
R0203	9965 000 42225	4.7kΩ 5% 1/10W
R0205	9965 000 42225	4.7kΩ 5% 1/10W
R0206	9965 000 42225	4.7kΩ 5% 1/10W
R0207	9965 000 45330	180Ohm 5% 0.1W

⊸〰⊸

LED0201	9965 000 45268	KPB-3025SYKPBAC
LED0202	9965 100 06766	LED TRA L-174A2F3BT

Q0201	9965 000 42649	BC847C
Q0201	9965 100 02479	BC847C
Q0202	9965 000 42649	BC847C
Q0202	9965 100 02479	BC847C
Q0203	9965 000 37785	BC857CG
Q0203	9965 000 40046	BC857 SOT23
Q0203	9965 100 02431	BC858CG 100mA/30V

PSU [P]

Various

F901	9965 000 43852	Fuse 250V 4A
FB900	9965 000 40066	Ferr. core BF30TA-2
FB900	9965 100 02511	Ferr. core 35Ohm
FB901	9965 000 40066	Ferr. core BF30TA-2
FB901	9965 100 02511	Ferr. core 35Ohm
FB902	9965 000 40066	Ferr. core BF30TA-2
FB902	9965 100 02511	Ferr. core 35Ohm
FB903	9965 000 43357	Ferrite Bead
FB903	9965 000 43839	Ferrite Bead
FB904	9965 000 43357	Ferrite Bead
FB904	9965 000 43839	Ferrite Bead
FB918	9965 000 40066	Ferr. core BF30TA-2
FB918	9965 100 02511	Ferr. core 35Ohm
FB960	9965 000 40066	Ferr. core BF30TA-2
FB960	9965 100 02511	Ferr. core 35Ohm
FB961	9965 000 40066	Ferr. core BF30TA-2
FB961	9965 100 02511	Ferr. core 35Ohm
FB962	9965 000 40066	Ferr. core BF30TA-2
FB962	9965 100 02511	Ferr. core 35Ohm
FB963	9965 000 40066	Ferr. core BF30TA-2
FB963	9965 100 02511	Ferr. core 35Ohm
ZD935	9965 000 43893	RLZ15B
ZD935	9965 000 43895	RLZ15B
ZD965	9965 000 43892	RLZ27B LLDS
ZD966	9965 000 39777	RLZ 13B LLDS
ZD966	9965 000 43894	RLZ13B SEMTECH

⊣⊢

C900	9965 000 43824	470pF 10% 250VAC
C900	9965 000 43827	470pF 10% 250VAC
C900	9965 000 43828	470pF 10% 250VAC
C901	9965 000 43824	470pF 10% 250VAC
C901	9965 000 43827	470pF 10% 250VAC
C901	9965 000 43828	470pF 10% 250VAC
C905	9965 000 43348	63G214J225GMC
C905	9965 000 43822	2.2µF 5% 450V
C907	9965 000 43829	120µF 450V
C907	9965 000 43832	120µF 450V
C908	9965 000 37794	Film Capacitor
C908	9965 000 43821	0.47µF 275VAC
C908	9965 000 43838	MPX-474K27B15L3
C909	9965 000 37794	Film Capacitor
C909	9965 000 43821	0.47µF 275VAC
C909	9965 000 43838	MPX-474K27B15L3
C916	9965 000 36041	0.1µF 50V X7R
C917	9965 000 36041	0.1µF 50V X7R
C918	9965 000 39731	2200pF 20% 250Vac
C918	9965 000 43825	2200pF 20% 250VAC
C918	9965 000 43826	2200pF 20% 250VAC
C920	9965 000 43889	560pF 50V 0805
C920	9965 000 43890	560pF 50V 0805
C921	9965 000 43886	2.2µF 16V
C922	9965 100 04670	10nF 50V 0805
C923	9965 000 36041	0.1µF 50V X7R
C924	9965 000 43883	22pF 50V 0805
C925	9965 000 36041	0.1µF 50V X7R
C927	9965 000 37327	1µF 50V Y5V
C927	9965 000 43882	CHIP 1UF Y5V 0805
C930	9965 000 43885	22nF 1% 25V 0805
C931	9965 000 45148	390pF +/-10% 50V
C931	9965 100 04233	390pF +/-10% 50V
C934	9965 000 43909	33µF 50V
C934	9965 000 43910	33µF 50V
C950	9965 000 43883	22pF 50V 0805
C951	9965 000 43884	220pF 50V 0805
C952	9965 000 43884	220pF 50V 0805
C953	9965 000 43887	0.33µF 50V
C954	9965 000 43909	33µF 50V
C954	9965 000 43910	33µF 50V
C955	9965 000 37327	1µF 50V Y5V
C959	9965 000 43906	2200pF 500V
C959	9965 000 43907	2200pF 500V
C959	9965 000 43908	2200pF 500V
C961	9965 000 43823	0.022µF 5% 250V
C964	9965 000 44331	1000uF 35V
C964	9965 000 44332	1000µF 35V
C965	9965 000 44331	1000uF 35V
C965	9965 000 44332	1000µF 35V
C966	9965 000 44331	1000uF 35V
C966	9965 000 44332	1000µF 35V
C971	9965 000 36041	0.1µF 50V X7R
C972	9965 000 43463	1000µF 25V
C972	9965 000 43833	1000µF 16V
C972	9965 000 43834	1000µF 16V
C972	9965 000 43836	1000µF 25V
C973	9965 000 36041	0.1µF 50V X7R
C974	9965 000 36041	0.1µF 50V X7R
C975	9965 000 42603	220µF 35V
C975	9965 000 43830	220µF 35V
C977	9965 000 43889	560pF 50V 0805
C987	9965 000 36041	0.1µF 50V X7R
C987	9965 000 44292	0.1uF 50V 0805
C988	9965 000 36041	0.1µF 50V X7R
C988	9965 000 44292	0.1uF 50V 0805
C991	9965 000 36041	0.1µF 50V X7R
C995	9965 000 43884	220pF 50V 0805
C996	9965 000 43888	0.22µF 50V
CN901	9965 100 04668	Socket AC
CN915	9965 000 43344	Connector 12p m

⊸WW⊸

R901	9965 000 43879	270kΩ 5% 1/4W
R902	9965 000 43879	270kΩ 5% 1/4W

R903	9965 000 43878	240kΩ 5% 1/4W
R910	9965 000 43880	330kΩ 1% 1/4W
R911	9965 000 43880	330kΩ 1% 1/4W
R912	9965 000 43880	330kΩ 1% 1/4W
R913	9965 000 43400	620Ω 1% 1/8W
R914	9965 000 43398	5.6kΩ 1% 1/8W
R917	9965 000 43390	22kΩ 5% 1/8W
R918	9965 000 42284	0Ω 1/10W
R920	9965 000 43902	0.15Ω 1% 1W
R921	9965 000 43877	6.2kΩ 5% 1/8W
R922	9965 000 43380	1kΩ 1/10W
R924	9965 000 43395	33kΩ 5% 1/8W
R925	9965 000 43874	47Ω 5% 1/8W
R925	9965 000 44294	47Ω 5% 1/8W
R926	9965 000 36987	10Ω 5% 1/4W
R926	9965 000 38141	10Ω 5% 1/6W
R927	9965 000 43881	820kΩ 5% 1/4W
R928	9965 000 43881	820kΩ 5% 1/4W
R929	9965 000 43881	820kΩ 5% 1/4W
R930	9965 000 43868	16kΩ 5% 1/8W
R931	9965 000 42284	0Ω 1/10W
R932	9965 000 43898	7.5kΩ 5% 1/4W
R932	9965 000 43901	7.5kΩ 5% 1/6W
R936	9965 000 43381	10kΩ 1/10W
R937	9965 000 43393	330Ω 5% 1/8W
R938	9965 000 43869	18Ω 5% 1/8W
R939	9965 000 43381	10kΩ 1/10W
R940	9965 000 43896	1kΩ 5% 1/4W
R940	9965 000 43899	1kΩ 5% 1/6W
R942	9965 000 43869	18Ω 5% 1/8W
R950	9965 000 43903	0.33Ω 5% 1W
R952	9965 000 43896	1kΩ 5% 1/4W
R952	9965 000 43899	1kΩ 5% 1/6W
R953	9965 000 43867	150Ω 5% 1/8W
R953	9965 000 44295	150Ω 5% 1/8W
R954	9965 000 36987	10Ω 5% 1/4W
R954	9965 000 38141	10Ω 5% 1/6W
R955	9965 000 43390	22kΩ 5% 1/8W
R957	9965 000 43897	130kΩ 5% 1/4W
R957	9965 000 43900	130kΩ 5% 1/6W
R965	9965 000 43379	100Ω 5% 1/8W
R966	9965 000 43379	100Ω 5% 1/8W
R967	9965 000 43380	1kΩ 1/10W
R968	9965 000 39749	100kΩ 0805
R970	9965 000 43896	1kΩ 5% 1/4W
R970	9965 000 43899	1kΩ 5% 1/6W
R971	9965 000 43870	19.6kΩ 1% 1/8W
R972	9965 000 43389	2.2kΩ 1% 1/8W
R972	9965 000 44296	2.2kΩ 1% 1/8W
R974	9965 000 43381	10kΩ 1/10W
R974	9965 000 44297	10kΩ 5% 1/8W
R979	9965 000 43875	4.7kΩ 1% 1/8W
R990	9965 000 43872	2.2kΩ 5% 1/8W
R991	9965 000 43876	4.7kΩ 5% 1/8W
R992	9965 000 42284	0Ω 1/10W
R994	9965 000 39749	100kΩ 0805
R995	9965 000 43873	39kΩ 1% 1/8W
R996	9965 000 43875	4.7kΩ 1% 1/8W
R998	9965 100 04669	20.5kΩ 1% 1/8W
VAR901	9965 100 02714	TVR14511KFC4FY

L901	9965 000 43847	Line Filter 6mH 1.8A
L901	9965 000 43848	Line Filter 6mH 2.0A
L903	9965 000 43843	Choke coil 430µH 0.19Ω
L903	9965 100 04967	Choke coil 430µH 0.19Ω
L910	9965 000 43849	Line Filter 11mH 3.5A
L910	9965 000 43850	Line Filter 11mH 3.5A
L966	9965 000 43361	15µH 10%
L966	9965 000 43845	Choke coil 15µH 260MΩ
L966	9965 000 43846	Choke coil 15µH 260MΩ
L966	9965 100 02517	Choke coil 15µH 260MΩ
L970	9965 000 42610	Choke Coil
L970	9965 000 43841	Choke 35µH 10% 82MΩ
L983	9965 000 43360	10µH 10%
L983	9965 000 43842	Choke coil 10µH 17MΩ
L983	9965 000 43844	Choke coil 10µH 14.6MΩ
L983	9965 100 02516	Choke coil 10µH 14.6MΩ
T901	9965 000 43851	XFMR PPH6004AL
T901	9965 100 02519	HJC-S6197

D901	9965 000 43857	STTH5L06FP
D926	9965 000 36035	LL4148WP
D926	9965 000 43891	MLL4148 SMD
D926	9965 100 03321	LL4148-GSO8
D934	9965 000 40067	RGP10-DO-204AL
D934	9965 000 43435	BYT42D
D934	9965 000 43436	RGP10D
D935	9965 000 40067	RGP10-DO-204AL
D935	9965 000 43435	BYT42D
D935	9965 000 43436	RGP10D
D950	9965 000 40067	RGP10-DO-204AL
D950	9965 000 43435	BYT42D
D950	9965 000 43436	RGP10D
D951	9965 000 40067	RGP10-DO-204AL
D951	9965 000 43435	BYT42D
D951	9965 000 43436	RGP10D
D953	9965 000 36035	LL4148WP
D953	9965 000 43891	MLL4148 SMD
D953	9965 100 03321	LL4148-GSO8
D955	9965 000 36035	LL4148WP
D955	9965 000 43891	MLL4148 SMD
D955	9965 100 03321	LL4148-GSO8
D957	9965 000 43426	Trans Suppr 120V 5W
D957	9965 000 43434	P6KE120A DO-15
D958	9965 000 43437	UF1007 1A 1000V
D958	9965 000 43438	STTH110
D959	9965 000 43426	Trans Suppr 120V 5W
D959	9965 000 43434	P6KE120A DO-15
D960	9965 000 36034	SP10150
D960	9965 000 43855	MBRF10150CT
D960	9965 000 43856	MBRF10150CT
D961	9965 000 36034	SP10150
D961	9965 000 43855	MBRF10150CT
D961	9965 000 43856	MBRF10150CT
D970	9965 000 43904	SB240
D970	9965 000 43905	SB240-13-F DO-41
D970	9965 100 02828	SB240

IC920	9965 000 43861	UCC28051D
IC950	9965 000 43860	FA5541N
IC970	9965 000 43859	LA5779L-HK
IC990	9965 000 36055	PC123Y22FZOF
IC990	9965 000 40055	PC123 Y82FZ0F
IC990	9965 000 40056	TCET1103G
IC991	9965 000 36055	PC123Y22FZOF
IC991	9965 000 40055	PC123 Y82FZ0F
IC991	9965 000 40056	TCET1103G
IC995	9965 000 43819	TL431CZ-AP
IC995	9965 100 02780	AZ431AZ-AE1
Q901	9965 000 43862	Mosfet_20A/600V
Q901	9965 000 43863	Mosfet_20A/600V
Q901	9965 000 43865	STP25NM60N 20A/600V
Q902	9965 000 43864	Mosfet STP10NK80ZFP
Q936	9965 000 35967	KEC 2N3906S-RTK/PS
Q936	9965 100 02478	PMBS3906
Q988	9965 000 36033	RK7002
Q988	9965 000 42650	2N7002 SOT-23
Q988	9965 000 42651	2N7002 SOT-23
Q992	9965 000 36033	RK7002
Q992	9965 000 42650	2N7002 SOT-23
Q992	9965 000 42651	2N7002 SOT-23
Q993	9965 000 35966	PMBS3904
Q993	9965 000 36961	KEC 2N3904S-RTK/PS
Q993	9965 000 40045	MMBT3904
BD901	9965 000 43858	Bridge 6A/600V
BD901	9965 000 44288	GBU606
BD901	9965 100 03552	GBU605
NR901	9965 000 43820	NTC SCK101R55LSY

TV & Scaler Board [S-A]

Various

1256	9965 100 06763	EEPROM ASSY-U4101
1256	9965 100 08391	EEPROM ASSY
1257	9965 100 06764	FLASH ASSY_U4502
1257	9965 100 08392	FLASH ASSY
FB1101	9965 000 45218	Bead 10 Ohm/500mA
FB1102	9965 000 45218	Bead 10 Ohm/500mA
FB1103	9965 000 45218	Bead 10 Ohm/500mA
FB1104	9965 000 43997	Bead 600Ω/500mA
FB1104	9965 100 02513	Bead 600Ω/200mA
FB1105	9965 000 43997	Bead 600Ω/500mA
FB1105	9965 100 02513	Bead 600Ω/200mA
FB1106	9965 000 45219	Bead 600 Ohm/300mA
FB1107	9965 000 45219	Bead 600 Ohm/300mA
FB1201	9965 100 02512	Bead 100 Ohm 3A
FB1202	9965 000 45218	Bead 10 Ohm/500mA
FB1203	9965 000 45218	Bead 10 Ohm/500mA
FB1204	9965 000 45219	Bead 600 Ohm/300mA
FB1205	9965 000 45218	Bead 10 Ohm/500mA
FB1206	9965 000 45219	Bead 600 Ohm/300mA
FB1207	9965 000 45218	Bead 10 Ohm/500mA
FB1208	9965 000 45218	Bead 10 Ohm/500mA
FB1209	9965 000 45218	Bead 10 Ohm/500mA
FB1211	9965 100 03317	Bead 120 Ohm/500mA
FB1213	9965 000 45219	Bead 600 Ohm/300mA
FB1214	9965 100 03317	Bead 120 Ohm/500mA
FB1216	9965 000 45219	Bead 600 Ohm/300mA
FB1217	9965 100 03317	Bead 120 Ohm/500mA
FB1219	9965 000 45219	Bead 600 Ohm/300mA
FB1220	9965 100 03317	Bead 120 Ohm/500mA
FB1221	9965 100 03317	Bead 120 Ohm/500mA
FB1222	9965 000 45219	Bead 600 Ohm/300mA
FB1223	9965 100 03317	Bead 120 Ohm/500mA
FB1224	9965 000 45219	Bead 600 Ohm/300mA
FB1225	9965 000 45219	Bead 600 Ohm/300mA
FB1226	9965 000 45219	Bead 600 Ohm/300mA
FB1227	9965 000 45219	Bead 600 Ohm/300mA
FB1228	9965 000 45218	Bead 10 Ohm/500mA
FB1231	9965 000 45219	Bead 600 Ohm/300mA
FB4201	9965 100 02512	Bead 100 Ohm 3A
FB4401	9965 000 45221	Bead 120Ohm/600mA
FB4402	9965 000 45221	Bead 120Ohm/600mA
FB4403	9965 000 45221	Bead 120Ohm/600mA
FB4404	9965 000 45221	Bead 120Ohm/600mA
FB4405	9965 000 45221	Bead 120Ohm/600mA
FB4406	9965 000 45221	Bead 120Ohm/600mA
FB4407	9965 000 45221	Bead 120Ohm/600mA
FB4408	9965 000 45221	Bead 120Ohm/600mA
FB6201	9965 100 02512	Bead 100 Ohm 3A
FB6202	9965 100 02512	Bead 100 Ohm 3A
FB6301	9965 100 02512	Bead 100 Ohm 3A
FB6302	9965 100 02512	Bead 100 Ohm 3A
FB6303	9965 100 02512	Bead 100 Ohm 3A
FB6304	9965 100 02512	Bead 100 Ohm 3A
FB6307	9965 100 02512	Bead 100 Ohm 3A
FB6308	9965 100 02776	Bead 120 Ohm 3A
FB7101	9965 100 02776	Bead 120 Ohm 3A
FB7206	9965 100 02512	Bead 100 Ohm 3A
FB7209	9965 100 02512	Bead 100 Ohm 3A
FB7210	9965 100 02512	Bead 100 Ohm 3A
FB7211	9965 100 02512	Bead 100 Ohm 3A
FB7212	9965 100 02512	Bead 100 Ohm 3A
X4101	9965 000 45243	Crystal 10Mhz 30pF
X4101	9965 100 04059	Crystal 10Mhz 30pF
X4101	9965 100 04060	Crystal 10Mhz 30pF
X4201	9965 100 02530	Crystal 28.322Mhz 14pF
X4201	9965 100 04057	Crystal 28.322Mhz 14pF
X4201	9965 100 04058	Crystal 28.322Mhz 14pF
X6201	9965 100 05957	Crystal 28.432Mhz 12pF
X6201	9965 100 05958	Crystal 28.432Mhz 12pF
ZD1103	9965 000 35994	BAV99
ZD1103	9965 100 05726	BAV99
ZD1104	9965 000 35994	BAV99
ZD1104	9965 100 05726	BAV99
ZD5101	9965 000 45246	PESD0603-140
ZD5102	9965 000 45246	PESD0603-140
ZD5103	9965 000 45246	PESD0603-140
ZD5104	9965 000 45246	PESD0603-140
ZD5105	9965 000 45246	PESD0603-140
ZD5106	9965 000 45246	PESD0603-140
ZD7101	9965 000 44282	BZX84-C5V6
ZD7101	9965 100 02526	BZX84-C5V6
ZD7102	9965 000 44282	BZX84-C5V6
ZD7102	9965 100 02526	BZX84-C5V6
ZD7103	9965 000 44282	BZX84-C5V6
ZD7103	9965 100 02526	BZX84-C5V6
ZD7104	9965 000 44282	BZX84-C5V6
ZD7104	9965 100 02526	BZX84-C5V6
ZD7105	9965 000 44282	BZX84-C5V6
ZD7105	9965 100 02526	BZX84-C5V6
ZD7106	9965 000 44282	BZX84-C5V6
ZD7106	9965 100 02526	BZX84-C5V6
ZD7107	9965 000 44282	BZX84-C5V6
ZD7107	9965 100 02526	BZX84-C5V6
ZD7201	9965 000 37806	SMD

C1101	9965 000 43488	100nF 25V 0603
C1102	9965 000 43488	100nF 25V 0603
C1103	9965 000 45199	4.7uF 10% 10V
C1105	9965 000 43488	100nF 25V 0603
C1107	9965 000 42231	330pF 50V NPO 0603
C1108	9965 000 42231	330pF 50V NPO 0603
C1110	9965 000 42401	220pF NP0 50V 5% 0603
C1111	9965 000 42230	33pF 50V 0603
C1112	9965 100 02500	220nF 10% 10V
C1114	9965 000 43488	100nF 25V 0603
C1115	9965 000 45199	4.7uF 10% 10V
C1116	9965 000 43978	10pF 5% 50V 0603
C1117	9965 000 43978	10pF 5% 50V 0603
C1120	9965 000 43488	100nF 25V 0603
C1121	9965 000 43488	100nF 25V 0603
C1122	9965 000 43488	100nF 25V 0603
C1123	9965 000 43488	100nF 25V 0603
C1124	9965 000 43488	100nF 25V 0603
C1201	9965 000 45200	1000 uF 25V
C1201	9965 100 04043	1000uF 20%

C1202	9965 000 43984	5.6pF 50V 0603
C1203	9965 000 43984	5.6pF 50V 0603
C1204	9965 000 43488	100nF 25V 0603
C1205	9965 000 45201	10uF 25V
C1206	9965 000 43984	5.6pF 50V 0603
C1207	9965 000 45201	10uF 25V
C1208	9965 000 43984	5.6pF 50V 0603
C1209	9965 000 43984	5.6pF 50V 0603
C1210	9965 000 43984	5.6pF 50V 0603
C1211	9965 000 42259	100pF 50V 0603
C1222	9965 100 04130	820pF 25V
C1228	9965 000 42259	100pF 50V 0603
C1229	9965 000 42259	100pF 50V 0603
C1230	9965 000 42259	100pF 50V 0603
C1231	9965 000 42259	100pF 50V 0603
C1232	9965 000 42230	33pF 50V 0603
C1233	9965 000 42230	33pF 50V 0603
C1234	9965 000 42230	33pF 50V 0603
C1235	9965 000 42259	100pF 50V 0603
C4101	9965 000 43488	100nF 25V 0603
C4102	9965 000 45199	4.7uF 10% 10V
C4103	9965 000 43488	100nF 25V 0603
C4104	9965 000 43488	100nF 25V 0603
C4105	9965 000 43488	100nF 25V 0603
C4106	9965 000 43488	100nF 25V 0603
C4107	9965 000 45203	100uF 25V
C4107	9965 100 04042	100uF 25V
C4108	9965 000 45199	4.7uF 10% 10V
C4111	9965 100 05555	10pF 5% 50V
C4112	9965 100 05555	10pF 5% 50V
C4201	9965 000 42701	2700pF 50V
C4202	9965 000 43488	100nF 25V 0603
C4203	9965 000 43488	100nF 25V 0603
C4204⚠	9965 000 43488	100nF 25V 0603
C4205	9965 000 43488	100nF 25V 0603
C4206	9965 000 43488	100nF 25V 0603
C4207	9965 000 43488	100nF 25V 0603
C4208	9965 000 43488	100nF 25V 0603
C4209	9965 000 43488	100nF 25V 0603
C4210	9965 000 43488	100nF 25V 0603
C4211	9965 000 43488	100nF 25V 0603
C4212	9965 000 43488	100nF 25V 0603
C4213	9965 000 43488	100nF 25V 0603
C4214	9965 000 43488	100nF 25V 0603
C4215	9965 000 43488	100nF 25V 0603
C4216	9965 000 43488	100nF 25V 0603
C4217	9965 000 43488	100nF 25V 0603
C4218	9965 000 43488	100nF 25V 0603
C4219	9965 000 43488	100nF 25V 0603
C4220	9965 000 43488	100nF 25V 0603
C4221	9965 000 43488	100nF 25V 0603
C4222	9965 000 43488	100nF 25V 0603
C4223	9965 000 43488	100nF 25V 0603
C4224	9965 000 42701	2700pF 50V
C4225	9965 100 05949	4.7pF 50V 0603
C4226	9965 100 05949	4.7pF 50V 0603
C4227	9965 000 43488	100nF 25V 0603
C4228	9965 000 45203	100uF 25V
C4228	9965 100 04042	100uF 25V
C4229	9965 000 43488	100nF 25V 0603
C4230	9965 000 44025	22µF 20% 1206
C4231	9965 000 42706	3.3uF 50V
C4231	9965 100 02504	3.3uF 50V
C4232	9965 000 45201	10uF 25V
C4233	9965 000 43488	100nF 25V 0603
C4301	9965 000 43488	100nF 25V 0603
C4304	9965 000 43488	100nF 25V 0603
C4305	9965 000 45199	4.7uF 10% 10V
C4306	9965 000 43488	100nF 25V 0603
C4307	9965 000 45199	4.7uF 10% 10V
C4308	9965 000 42264	1µF 16V 0805
C4401	9965 000 43488	100nF 25V 0603
C4402	9965 000 45205	10uF 10V 0805
C4403	9965 000 43488	100nF 25V 0603
C4404	9965 000 43488	100nF 25V 0603
C4405	9965 000 43488	100nF 25V 0603
C4406	9965 000 43488	100nF 25V 0603
C4407	9965 000 43488	100nF 25V 0603
C4408	9965 000 44025	22µF 20% 1206
C4409	9965 000 43488	100nF 25V 0603
C4410	9965 000 43488	100nF 25V 0603
C4411	9965 000 43488	100nF 25V 0603
C4412	9965 000 43488	100nF 25V 0603
C4413	9965 000 45205	10uF 10V 0805
C4414	9965 000 45205	10uF 10V 0805
C4415	9965 000 45205	10uF 10V 0805
C4416	9965 000 45205	10uF 10V 0805
C4417	9965 000 45205	10uF 10V 0805
C4418	9965 000 43488	100nF 25V 0603
C4419	9965 000 43488	100nF 25V 0603
C4420	9965 000 44025	22µF 20% 1206
C4421	9965 000 43488	100nF 25V 0603
C4422	9965 000 43488	100nF 25V 0603
C4423	9965 000 43488	100nF 25V 0603
C4424	9965 000 45205	10uF 10V 0805
C4425	9965 000 43488	100nF 25V 0603
C4426	9965 000 43488	100nF 25V 0603
C4427	9965 000 45205	10uF 10V 0805
C4428	9965 000 43488	100nF 25V 0603
C4429	9965 000 43488	100nF 25V 0603
C4430	9965 000 43488	100nF 25V 0603
C4431	9965 000 45205	10uF 10V 0805
C4432	9965 000 43488	100nF 25V 0603
C4433	9965 000 43488	100nF 25V 0603
C4434	9965 000 43488	100nF 25V 0603
C4435	9965 000 43488	100nF 25V 0603
C4436	9965 000 45205	10uF 10V 0805
C4437	9965 000 43488	100nF 25V 0603
C4438	9965 000 43488	100nF 25V 0603
C4439	9965 000 44025	22µF 20% 1206
C4440	9965 000 43488	100nF 25V 0603
C4441	9965 000 43488	100nF 25V 0603
C4442	9965 000 43488	100nF 25V 0603
C4443	9965 000 43488	100nF 25V 0603
C4444	9965 000 43488	100nF 25V 0603
C4445	9965 000 43488	100nF 25V 0603
C4446	9965 000 43488	100nF 25V 0603
C4447	9965 000 43488	100nF 25V 0603
C4448	9965 000 44025	22µF 20% 1206
C4449	9965 000 45205	10uF 10V 0805
C4450	9965 000 43488	100nF 25V 0603
C4451	9965 000 43488	100nF 25V 0603
C4452	9965 000 43488	100nF 25V 0603
C4453	9965 000 43488	100nF 25V 0603
C4454	9965 000 43488	100nF 25V 0603
C4455	9965 000 43488	100nF 25V 0603
C4456	9965 000 43488	100nF 25V 0603
C4457	9965 000 43488	100nF 25V 0603
C4458	9965 000 43488	100nF 25V 0603
C4459	9965 000 43488	100nF 25V 0603
C4460	9965 000 45205	10uF 10V 0805
C4461	9965 000 45205	10uF 10V 0805
C4462	9965 000 45205	10uF 10V 0805
C4463	9965 000 45205	10uF 10V 0805
C4501	9965 000 43488	100nF 25V 0603
C4502	9965 000 42260	10nF 50V X7R 0603
C4503	9965 000 44025	22µF 20% 1206
C4504	9965 000 43488	100nF 25V 0603
C4505	9965 000 43488	100nF 25V 0603
C4506	9965 000 43488	100nF 25V 0603
C4507	9965 000 43488	100nF 25V 0603
C4508	9965 000 43488	100nF 25V 0603
C4509	9965 000 44025	22µF 20% 1206
C4510	9965 000 43488	100nF 25V 0603
C4511	9965 000 43488	100nF 25V 0603
C4512	9965 000 43488	100nF 25V 0603
C4513	9965 000 43488	100nF 25V 0603
C4514	9965 000 43488	100nF 25V 0603
C4515	9965 000 43488	100nF 25V 0603
C4516	9965 000 43488	100nF 25V 0603
C4517	9965 000 43488	100nF 25V 0603
C4518	9965 000 44025	22µF 20% 1206
C5101	9965 000 43488	100nF 25V 0603
C5103	9965 000 43488	100nF 25V 0603
C5105	9965 000 42672	1nF 10% 50V 0603
C5107	9965 000 43488	100nF 25V 0603
C5108	9965 000 45199	4.7uF 10% 10V
C5110	9965 000 45199	4.7uF 10% 10V
C5111	9965 000 43488	100nF 25V 0603
C5112	9965 000 43488	100nF 25V 0603
C5113	9965 000 43488	100nF 25V 0603
C5114	9965 000 43488	100nF 25V 0603
C5116	9965 000 43488	100nF 25V 0603
C5121	9965 000 43488	100nF 25V 0603
C5122	9965 000 45203	100uF 25V
C5122	9965 100 04042	100uF 25V
C5123	9965 000 43488	100nF 25V 0603
C5124	9965 100 04044	100uF 10% 16V
C5124	9965 100 04046	100uF 10% 16V
C5125	9965 000 45199	4.7uF 10% 10V
C5126	9965 000 43488	100nF 25V 0603
C5127	9965 000 43488	100nF 25V 0603
C5128	9965 000 43488	100nF 25V 0603
C5129	9965 000 43488	100nF 25V 0603
C5133	9965 000 43488	100nF 25V 0603
C5250	9965 100 04781	27pF 5% 50V
C5251	9965 100 04781	27pF 5% 50V
C6201	9965 000 43488	100nF 25V 0603
C6202	9965 000 45203	100uF 25V
C6202	9965 100 04042	100uF 25V
C6203	9965 000 45205	10uF 10V 0805
C6204	9965 000 45205	10uF 10V 0805
C6205	9965 000 43488	100nF 25V 0603
C6206	9965 000 43488	100nF 25V 0603
C6207	9965 000 43488	100nF 25V 0603
C6208	9965 000 45205	10uF 10V 0805
C6209	9965 000 45205	10uF 10V 0805
C6210	9965 000 42678	15pF -5% 50V 0603
C6211	9965 000 42690	47pF 50V NPO 5% 0603
C6212	9965 000 45205	10uF 10V 0805
C6213	9965 000 42400	1µF 10V Y5V 20% 0603
C6214	9965 100 05950	3.3pF 50V 0603
C6215	9965 000 42400	1µF 10V Y5V 20% 0603
C6216	9965 000 42400	1µF 10V Y5V 20% 0603
C6217	9965 000 42400	1µF 10V Y5V 20% 0603
C6218	9965 000 42400	1µF 10V Y5V 20% 0603
C6219	9965 000 42400	1µF 10V Y5V 20% 0603
C6220	9965 000 42400	1µF 10V Y5V 20% 0603
C6221	9965 100 05950	3.3pF 50V 0603
C6222	9965 000 42400	1µF 10V Y5V 20% 0603
C6223	9965 000 42400	1µF 10V Y5V 20% 0603
C6224	9965 000 42400	1µF 10V Y5V 20% 0603
C6225	9965 000 42400	1µF 10V Y5V 20% 0603
C6226	9965 000 42400	1µF 10V Y5V 20% 0603
C6227	9965 000 42400	1µF 10V Y5V 20% 0603
C6228	9965 000 42400	1µF 10V Y5V 20% 0603
C6229	9965 000 43488	100nF 25V 0603
C6230	9965 000 45205	10uF 10V 0805
C6231	9965 000 44025	22µF 20% 1206
C6232	9965 000 43488	100nF 25V 0603
C6233	9965 000 45205	10uF 10V 0805
C6234	9965 000 45205	10uF 10V 0805
C6235	9965 000 42686	220nF 10% 25V
C6236	9965 000 42400	1µF 10V Y5V 20% 0603
C6237	9965 000 42400	1µF 10V Y5V 20% 0603
C6238	9965 000 42400	1µF 10V Y5V 20% 0603
C6239	9965 000 42400	1µF 10V Y5V 20% 0603
C6240	9965 000 43977	1nF 5% 25V 0603
C6241	9965 000 43977	1nF 5% 25V 0603
C6301	9965 000 43835	1000µF 35V
C6301	9965 000 45208	1000uF 35V
C6302	9965 100 04040	470nF 10% 25V
C6303	9965 000 43488	100nF 25V 0603
C6304	9965 000 43488	100nF 25V 0603
C6305	9965 000 44025	22µF 20% 1206
C6306	9965 000 43488	100nF 25V 0603
C6307	9965 000 42259	100pF 50V 0603
C6308	9965 000 42259	100pF 50V 0603
C6309	9965 000 45203	100uF 25V
C6309	9965 100 04042	100uF 25V
C6310	9965 000 42686	220nF 10% 25V
C6311	9965 000 42686	220nF 10% 25V
C6312	9965 000 42259	100pF 50V 0603
C6313	9965 000 42260	10nF 50V X7R 0603
C6314	9965 000 45210	47uF 35V
C6315	9965 000 42684	22nF -10% 50V
C6317	9965 100 02499	1uF 16V 0603
C6318	9965 000 45205	10uF 10V 0805
C6320	9965 000 45205	10uF 10V 0805
C6321	9965 000 42400	1µF 10V Y5V 20% 0603
C6322	9965 000 42400	1µF 10V Y5V 20% 0603
C6323	9965 000 43488	100nF 25V 0603
C6324	9965 000 42684	22nF -10% 50V
C6326	9965 000 45203	100uF 25V
C6326	9965 100 04042	100uF 25V
C6327	9965 000 42259	100pF 50V 0603
C6328	9965 000 42260	10nF 50V X7R 0603
C6329	9965 000 42400	1µF 10V Y5V 20% 0603
C6330	9965 000 42400	1µF 10V Y5V 20% 0603
C6331	9965 000 42696	1µF 10% 25V 0805
C6332	9965 000 42696	1µF 10% 25V 0805
C6333	9965 100 02499	1uF 16V 0603
C6334	9965 000 42684	22nF -10% 50V
C6337	9965 000 42696	1µF 10% 25V 0805
C6338	9965 000 42686	220nF 10% 25V
C6339	9965 000 42686	220nF 10% 25V
C6340	9965 000 42696	1µF 10% 25V 0805
C6341	9965 000 42259	100pF 50V 0603
C6342	9965 000 42259	100pF 50V 0603
C6343	9965 100 04040	470nF 10% 25V
C6344	9965 000 43488	100nF 25V 0603
C6345	9965 000 43488	100nF 25V 0603
C6346	9965 100 06762	220nF 10% 16V
C6347	9965 000 43407	100nF 10% 50V 0805
C6348	9965 000 42264	1µF 16V 0805
C6349	9965 000 42263	0.47uF 5% 10V 0603
C6351	9965 000 42263	0.47uF 5% 10V 0603
C6353	9965 000 45211	1uF 20-80% 50V
C7106	9965 000 43488	100nF 25V 0603
C7107	9965 000 45205	10uF 10V 0805
C7108	9965 000 45205	10uF 10V 0805
C7109	9965 000 43488	100nF 25V 0603
C7110	9965 000 42259	100pF 50V 0603
C7111	9965 000 43488	100nF 25V 0603
C7112	9965 000 42262	100nF 50V Y5V 0603
C7113	9965 000 42230	33pF 50V 0603
C7114	9965 000 42230	33pF 50V 0603
C7118	9965 000 42604	470µF 25V
C7118	9965 000 42605	470µF 25V EB 10X13mm
C7119	9965 000 42259	100pF 50V 0603
C7120	9965 000 43977	1nF 5% 25V 0603
C7121	9965 000 42400	1µF 10V Y5V 20% 0603

C7122	9965 100 06761	22nF 20% 50V 0603
C7123	9965 100 06760	2.2nF 10% 50V
C7124▲	9965 100 04369	470nF 10% 16V
C7125	9965 100 04369	470nF 10% 16V
C7126	9965 100 06753	47uF 25V
C7126	9965 100 06754	47µF 25V
C7126	9965 100 06755	47µF 25V
C7127	9965 000 45205	10uF 10V 0805
C7129	9965 000 42230	33pF 50V 0603
C7132	9965 000 42604	470µF 25V
C7132	9965 000 42605	470µF 25V EB 10X13mm
C7133	9965 000 42262	100nF 50V Y5V 0603
C7202	9965 000 45212	470uF 35V
C7204	9965 100 02503	0.1uF 50V
C7205	9965 000 42260	10nF 50V X7R 0603
C7206	9965 000 45213	2.2UF 25V 1206
C7206	9965 100 04818	2.2uF 10% 25V
C7206	9965 100 04819	2.2uF 10% 25V
C7207	9965 000 43488	100nF 25V 0603
C7208	9965 000 37774	470µF 16V
C7209	9965 000 45203	100uF 25V
C7209	9965 100 04042	100uF 25V
C7210	9965 000 43488	100nF 25V 0603
C7211	9965 000 43488	100nF 25V 0603
C7212	9965 000 43488	100nF 25V 0603
C7213	9965 000 45203	100uF 25V
C7213	9965 100 04042	100uF 25V
C7214	9965 000 43488	100nF 25V 0603
C7215	9965 000 45203	100uF 25V
C7215	9965 100 04042	100uF 25V
C7216	9965 000 42232	47nF 16V X7R 0603
C7217	9965 000 45203	100uF 25V
C7217	9965 100 04042	100uF 25V
C7218	9965 000 43913	470µF 35V
C7218	9965 000 43914	470µF 35V
C7220	9965 000 42604	470µF 25V
C7220	9965 000 42605	470µF 25V EB 10X13mm
C7221	9965 000 42262	100nF 50V Y5V 0603
C7222	9965 000 43488	100nF 25V 0603
C7223	9965 000 45203	100uF 25V
C7223	9965 100 04042	100uF 25V
C7224	9965 000 43488	100nF 25V 0603
C7225	9965 000 45203	100uF 25V
C7225	9965 100 04042	100uF 25V
C7226	9965 000 43488	100nF 25V 0603
C7227	9965 000 42232	47nF 16V X7R 0603
C7229	9965 000 45203	100uF 25V
C7229	9965 100 04042	100uF 25V
C7230	9965 000 43913	470µF 35V
C7230	9965 000 43914	470µF 35V
C7232	9965 000 43488	100nF 25V 0603
C7233	9965 000 42604	470µF 25V
C7233	9965 000 42605	470µF 25V EB 10X13mm
C7234	9965 000 42262	100nF 50V Y5V 0603
C7234	9965 000 43488	100nF 25V 0603
C7235	9965 000 43488	100nF 25V 0603
C7236	9965 000 45203	100uF 25V
C7236	9965 100 04042	100uF 25V
C7237	9965 000 43488	100nF 25V 0603
C7238	9965 000 45203	100uF 25V
C7238	9965 100 04042	100uF 25V
C7239	9965 000 42232	47nF 16V X7R 0603
C7241	9965 000 45203	100uF 25V
C7241	9965 100 04042	100uF 25V
C7246	9965 000 43488	100nF 25V 0603
C7247	9965 000 45203	100uF 25V
C7247	9965 100 04042	100uF 25V
C7250	9965 000 43488	100nF 25V 0603
C7251	9965 000 45203	100uF 25V
C7251	9965 100 04042	100uF 25V
C7259	9965 000 43488	100nF 25V 0603
C7260	9965 100 02503	0.1uF 50V
C7262	9965 000 42604	470µF 25V
C7262	9965 000 42605	470µF 25V EB 10X13mm
C7263	9965 000 43913	470µF 35V
C7263	9965 000 43914	470µF 35V
CN1101	9965 000 45214	Connector 15p f
CN1101	9965 100 02457	D-SUB 15PIN
CN1102	9965 100 05951	Jack 3.5mm 5p
CN1203	9965 000 43922	RCA Jack g/b/r g/b/r
CN1203	9965 000 43925	RCA Jack g/b/r g/b/r
CN1204	9965 000 42616	Connector JACK s y/b
CN1206	9965 000 42612	RCA Jack
CN1206	9965 000 43921	RCA Jack w/r w/r 2pj
CN1208	9965 100 06756	RCA+ Phone Jack
CN5101	9965 100 05953	HDMI Header 19p
CN5102	9965 100 05953	HDMI Header 19p
CN7104	9965 100 04710	Connector 3p
CN7201	9965 100 03429	Connector

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R1102	9965 000 42214	10kΩ 5% 1/10W
R1103	9965 000 42214	10kΩ 5% 1/10W
R1104	9965 000 42214	10kΩ 5% 1/10W
R1105	9965 000 42214	10kΩ 5% 1/10W
R1106	9965 000 42213	100Ω 5% 1/10W
R1107	9965 000 42213	100Ω 5% 1/10W
R1108	9965 000 42213	100Ω 5% 1/10W
R1109	9965 000 42213	100Ω 5% 1/10W
R1110	9965 000 42224	470Ω 5% 1/10W
R1111	9965 000 43336	75Ω 5% 1/10W
R1113	9965 000 42214	10kΩ 5% 1/10W
R1114	9965 000 42213	100Ω 5% 1/10W
R1115	9965 000 42213	100Ω 5% 1/10W
R1116	9965 000 43336	75Ω 5% 1/10W
R1117	9965 000 42219	2.2kΩ 5% 1/10W
R1118	9965 000 42219	2.2kΩ 5% 1/10W
R1119	9965 000 43336	75Ω 5% 1/10W
R1120	9965 000 43487	3.3kΩ 5% 1/10W
R1121	9965 000 42277	47kΩ 5% 1/10W
R1122	9965 000 42277	47kΩ 5% 1/10W
R1123	9965 000 42214	10kΩ 5% 1/10W
R1125	9965 000 42220	22kΩ 5% 1/10W
R1126	9965 000 43487	3.3kΩ 5% 1/10W
R1127	9965 000 42277	47kΩ 5% 1/10W
R1128	9965 000 42277	47kΩ 5% 1/10W
R1131	9965 000 40053	1KΩ 1/10W 5%
R1132	9965 000 42212	0Ω 5% 1/10W
R1133	9965 000 42212	0Ω 5% 1/10W
R1136	9965 000 42212	0Ω 5% 1/10W
R1137	9965 000 42212	0Ω 5% 1/10W
R1201	9965 000 42212	0Ω 5% 1/10W
R1202	9965 000 43336	75Ω 5% 1/10W
R1203	9965 000 43487	3.3kΩ 5% 1/10W
R1204	9965 000 42277	47kΩ 5% 1/10W
R1205	9965 000 42277	47kΩ 5% 1/10W
R1206	9965 000 43336	75Ω 5% 1/10W
R1207	9965 000 42656	10Ω 5% 1/10W
R1208	9965 000 42656	10Ω 5% 1/10W
R1210	9965 000 43336	75Ω 5% 1/10W
R1211	9965 000 42219	2.2kΩ 5% 1/10W
R1212	9965 000 42656	10Ω 5% 1/10W
R1213	9965 000 43487	3.3kΩ 5% 1/10W
R1214	9965 000 42277	47kΩ 5% 1/10W
R1215	9965 000 42277	47kΩ 5% 1/10W
R1216	9965 000 43336	75Ω 5% 1/10W
R1217	9965 000 43336	75Ω 5% 1/10W
R1218	9965 000 43336	75Ω 5% 1/10W
R1219	9965 000 43336	75Ω 5% 1/10W
R1220	9965 000 42218	220Ω 5% 1/10W
R1221	965 000 43336	75Ω 5% 1/10W
R1222	9965 000 42657	120Ohm 5% 0.1W
R1223	9965 000 43487	3.3kΩ 5% 1/10W
R1224	9965 000 42277	47kΩ 5% 1/10W
R1225	9965 000 42277	47kΩ 5% 1/10W
R1226	9965 000 43336	75Ω 5% 1/10W
R1227	9965 000 43487	3.3kΩ 5% 1/10W
R1229	9965 000 42277	47kΩ 5% 1/10W
R1230	9965 000 42277	47kΩ 5% 1/10W
R1231	9965 000 43336	75Ω 5% 1/10W
R1232	9965 000 43487	3.3kΩ 5% 1/10W
R1233	9965 000 42277	47kΩ 5% 1/10W
R1234	9965 000 42277	47kΩ 5% 1/10W
R1235	9965 000 43487	3.3kΩ 5% 1/10W
R1236▲	9965 000 42277	47kΩ 5% 1/10W
R1237	9965 000 42277	47kΩ 5% 1/10W
R1238	9965 000 42212	0Ω 5% 1/10W
R1239	9965 000 42213	100Ω 5% 1/10W
R1240	9965 000 42213	100Ω 5% 1/10W
R4101	9965 000 42212	0Ω 5% 1/10W
R4104	9965 000 42225	4.7kΩ 5% 1/10W
R4110	9965 000 42212	0Ω 5% 1/10W
R4111	9965 000 42225	4.7kΩ 5% 1/10W
R4112	9965 000 42225	4.7kΩ 5% 1/10W
R4115	9965 000 42225	4.7kΩ 5% 1/10W
R4117	9965 000 42225	4.7kΩ 5% 1/10W
R4118	9965 000 42225	4.7kΩ 5% 1/10W
R4119	9965 000 42225	4.7kΩ 5% 1/10W
R4120	9965 000 42225	4.7kΩ 5% 1/10W
R4121	9965 000 42225	4.7kΩ 5% 1/10W
R4122	9965 000 42225	4.7kΩ 5% 1/10W
R4123	9965 000 42225	4.7kΩ 5% 1/10W
R4125	9965 000 42225	4.7kΩ 5% 1/10W
R4126	9965 000 42225	4.7kΩ 5% 1/10W
R4127	9965 000 42225	4.7kΩ 5% 1/10W
R4130	9965 000 42225	4.7kΩ 5% 1/10W
R4135	9965 000 42225	4.7kΩ 5% 1/10W
R4137	9965 000 42225	4.7kΩ 5% 1/10W
R4139	9965 000 42225	4.7kΩ 5% 1/10W
R4140	9965 000 42225	4.7kΩ 5% 1/10W
R4141	9965 000 42225	4.7kΩ 5% 1/10W
R4142	9965 000 42225	4.7kΩ 5% 1/10W
R4145	9965 000 42225	4.7kΩ 5% 1/10W
R4146	9965 000 42225	4.7kΩ 5% 1/10W
R4153	9965 000 42225	4.7kΩ 5% 1/10W
R4154	9965 000 42213	100Ω 5% 1/10W
R4155	9965 000 42213	100Ω 5% 1/10W
R4156	9965 000 42213	100Ω 5% 1/10W
R4202	9965 000 42222	33Ω 5% 1/10W
R4208	9965 000 42225	4.7kΩ 5% 1/10W
R4211	9965 000 42224	470Ω 5% 1/10W
R4214	9965 000 42225	4.7kΩ 5% 1/10W
R4215	9965 000 42225	4.7kΩ 5% 1/10W
R4217	9965 000 42225	4.7kΩ 5% 1/10W
R4218	9965 000 42224	470Ω 5% 1/10W
R4225	9965 000 42213	100Ω 5% 1/10W
R4226	9965 000 42219	2.2kΩ 5% 1/10W
R4227	9965 000 42224	470Ω 5% 1/10W
R4301▲	9965 000 42212	0Ω 5% 1/10W
R4304	9965 000 42656	10Ω 5% 1/10W
R4305	9965 000 42656	10Ω 5% 1/10W
R4306	9965 000 43955	1kΩ 1% 1/10W
R4307	9965 000 42277	47kΩ 5% 1/10W
R4308	9965 000 42225	4.7kΩ 5% 1/10W
R4309	9965 000 43955	1kΩ 1% 1/10W
R4310	9965 000 43955	1kΩ 1% 1/10W
R4313	9965 000 42214	10kΩ 5% 1/10W
R4314	9965 000 42214	10kΩ 5% 1/10W
R4401	9965 000 42217	22Ω 5% 1/10W
R4402	9965 000 42217	22Ω 5% 1/10W
R4501	9965 000 42212	0Ω 5% 1/10W
R4502	9965 000 42666	51Ω 5% 1/10W
R4503	9965 000 42666	51Ω 5% 1/10W
R4504	9965 000 42659	15 Ohm 5% 0.1%
R4505	9965 000 42659	15 Ohm 5% 0.1%
R4506	9965 000 42659	15 Ohm 5% 0.1%
R4507	9965 000 42659	15 Ohm 5% 0.1%
R4508	9965 000 42212	0Ω 5% 1/10W
R4509	9965 000 42212	0Ω 5% 1/10W
R4510	9965 000 42212	0Ω 5% 1/10W
R4511	9965 000 42212	0Ω 5% 1/10W
R4512	9965 000 42212	0Ω 5% 1/10W
R4513	9965 000 42212	0Ω 5% 1/10W
R5101	9965 000 44044	1.8kΩ 5% 1/10W
R5102	9965 000 42214	10kΩ 5% 1/10W
R5103	9965 000 42214	10kΩ 5% 1/10W
R5104	9965 000 42214	10kΩ 5% 1/10W
R5105	9965 000 42214	10kΩ 5% 1/10W
R5106	9965 000 42214	10kΩ 5% 1/10W
R5107	9965 000 42213	100Ω 5% 1/10W
R5109	9965 000 43955	1kΩ 1% 1/10W
R5111	9965 000 43958	1.5kΩ 5% 1/10W
R5113	9965 000 42213	100Ω 5% 1/10W
R5114	9965 000 42214	10kΩ 5% 1/10W
R5116	9965 000 42214	10kΩ 5% 1/10W
R5118	9965 000 43975	560Ω 1% 1/8W
R5120	9965 000 45225	1.5k Ohm 1% 0.1W
R5121	9965 000 43955	1kΩ 1% 1/10W
R5125	9965 000 45226	270 Ohm 5% 0.1W
R5126	9965 000 44831	3.3k Ohm 1% 0.1W
R5128	9965 000 42214	10kΩ 5% 1/10W
R5129	9965 000 42214	10kΩ 5% 1/10W
R5130	9965 000 42220	22kΩ 5% 1/10W
R5131	9965 000 42656	10Ω 5% 1/10W
R5132	9965 000 42656	10Ω 5% 1/10W
R5133	9965 000 42213	100Ω 5% 1/10W
R5134	9965 000 42225	4.7kΩ 5% 1/10W
R5135	9965 000 43955	1kΩ 1% 1/10W
R5138	9965 000 42212	0Ω 5% 1/10W
R5139	9965 000 45206	150k Ohm 5% 0.1W
R6201	9965 000 42212	0Ω 5% 1/10W
R6202	9965 000 42219	2.2kΩ 5% 1/10W
R6203	9965 000 42219	2.2kΩ 5% 1/10W
R6204	9965 000 42665	470k Ohm 5% 0.1W
R6205	9965 000 42665	470k Ohm 5% 0.1W
R6206	9965 000 42665	470k Ohm 5% 0.1W
R6207	9965 000 42665	470k Ohm 5% 0.1W
R6208	9965 000 42665	470k Ohm 5% 0.1W
R6209	9965 000 42665	470k Ohm 5% 0.1W
R6210	9965 000 42224	470Ω 5% 1/10W
R6211	9965 000 42665	470k Ohm 5% 0.1W
R6212	9965 000 42665	470k Ohm 5% 0.1W
R6213	9965 000 42665	470k Ohm 5% 0.1W
R6214	9965 000 42665	470k Ohm 5% 0.1W
R6215	9965 000 42214	10kΩ 5% 1/10W
R6216	9965 000 42212	0Ω 5% 1/10W
R6217	9965 000 42656	10Ω 5% 1/10W
R6218	9965 000 42656	10Ω 5% 1/10W
R6219	9965 000 42214	10kΩ 5% 1/10W
R6220	9965 000 42221	27kΩ 5% 1/10W
R6222	9965 000 42213	100Ω 5% 1/10W
R6223	9965 000 42213	100Ω 5% 1/10W
R6301	9965 000 42212	0Ω 5% 1/10W
R6302	9965 000 42214	10kΩ 5% 1/10W
R6303	9965 000 43962	39kΩ 5% 1/10W
R6304	9965 000 42220	22kΩ 5% 1/10W
R6305	9965 000 43487	3.3kΩ 5% 1/10W
R6306	9965 000 43487	3.3kΩ 5% 1/10W
R6307	9965 000 42669	6.8kΩ 5% 1/10W
R6308	9965 000 42213	100Ω 5% 1/10W

R6309	9965 000 42213	100Ω 5% 1/10W
R6310	9965 000 43962	39kΩ 5% 1/10W
R6311	9965 000 42214	10kΩ 5% 1/10W
R6312	9965 000 42669	6.8kΩ 5% 1/10W
R6313	9965 000 42220	22kΩ 5% 1/10W
R6314	9965 000 42225	4.7kΩ 5% 1/10W
R6315	9965 000 42212	0Ω 5% 1/10W
R6316	9965 000 42225	4.7kΩ 5% 1/10W
R6318	9965 000 42215	100kΩ 5% 1/10W
R6320	9965 000 42395	10kΩ 1% 1/10W
R6321	9965 000 42213	100Ω 5% 1/10W
R6322	9965 000 42213	100Ω 5% 1/10W
R6323	9965 000 42257	75kΩ 1% 1/10W
R6324	9965 000 42395	10kΩ 1% 1/10W
R6325	9965 000 42257	75kΩ 1% 1/10W
R7101	9965 000 42212	0Ω 5% 1/10W
R7102	9965 000 42213	100Ω 5% 1/10W
R7103	9965 000 42213	100Ω 5% 1/10W
R7104	9965 000 42225	4.7kΩ 5% 1/10W
R7105	9965 000 42225	4.7kΩ 5% 1/10W
R7106	9965 000 42225	4.7kΩ 5% 1/10W
R7107	9965 000 42225	4.7kΩ 5% 1/10W
R7109	9965 000 42213	100Ω 5% 1/10W
R7110	9965 000 42213	100Ω 5% 1/10W
R7111	9965 000 42225	4.7kΩ 5% 1/10W
R7112	9965 000 42225	4.7kΩ 5% 1/10W
R7113	9965 000 42225	4.7kΩ 5% 1/10W
R7114	9965 000 42656	10Ω 5% 1/10W
R7115	9965 000 42225	4.7kΩ 5% 1/10W
R7116	9965 000 42225	4.7kΩ 5% 1/10W
R7117	9965 000 42225	4.7kΩ 5% 1/10W
R7118	9965 000 42213	100Ω 5% 1/10W
R7119	9965 000 42213	100Ω 5% 1/10W
R7120	9965 000 42213	100Ω 5% 1/10W
R7121	9965 000 42213	100Ω 5% 1/10W
R7122	9965 100 02440	PTC KMC5S075R001
R7122	9965 100 04456	PTC 0.45Ohm 13.2V
R7123	9965 000 42212	0Ω 5% 1/10W
R7125	9965 100 02440	PTC KMC5S075R001
R7125	9965 100 04456	PTC 0.45Ohm 13.2V
R7126	9965 000 42656	10Ω 5% 1/10W
R7128	9965 000 42213	100Ω 5% 1/10W
R7130	9965 000 42213	100Ω 5% 1/10W
R7131	9965 000 42213	100Ω 5% 1/10W
R7138	9965 000 42214	10kΩ 5% 1/10W
R7139	9965 000 42214	10kΩ 5% 1/10W
R7140	9965 000 42396	120kΩ 1% 0603
R7141	9965 000 42662	330Ω 5% 1/10W
R7142	9965 000 42665	470k Ohm 5% 0.1W
R7143	9965 000 42665	470k Ohm 5% 0.1W
R7148	9965 000 42214	10kΩ 5% 1/10W
R7149	9965 000 42214	10kΩ 5% 1/10W
R7202	9965 000 42225	4.7kΩ 5% 1/10W
R7205	9965 000 42255	5.1 Ohm 5% 0.1W
R7206	9965 000 42214	10kΩ 5% 1/10W
R7207	9965 000 42213	100Ω 5% 1/10W
R7208	9965 000 42212	0Ω 5% 1/10W
R7209	9965 000 42225	4.7kΩ 5% 1/10W
R7210	9965 000 45228	2.7k Ohm 5% 0.1W
R7211	9965 000 42213	100Ω 5% 1/10W
R7212	9965 000 42215	100kΩ 5% 1/10W
R7213	9965 000 42397	15kΩ 5% 1/10W
R7215	9965 000 42214	10kΩ 5% 1/10W
R7218	9965 000 42213	100Ω 5% 1/10W
R7221	9965 000 42215	100kΩ 5% 1/10W
R7222	9965 000 42397	15kΩ 5% 1/10W
R7225	9965 000 42214	10kΩ 5% 1/10W
R7227	9965 000 42213	100Ω 5% 1/10W
R7230	9965 000 42215	100kΩ 5% 1/10W
R7231	9965 000 42397	15kΩ 5% 1/10W
R7234	9965 000 42214	10kΩ 5% 1/10W
R7236	9965 000 42213	100Ω 5% 1/10W
R7258	9965 000 42214	10kΩ 5% 1/10W
R7259	9965 000 42214	10kΩ 5% 1/10W
R7260	9965 000 42214	10kΩ 5% 1/10W
RP4301	9965 000 42654	4*100Ω 5%
RP4302	9965 000 42654	4*100Ω 5%
RP4303	9965 000 42654	4*100Ω 5%
RP4304	9965 000 42654	4*100Ω 5%
RP4501	9965 000 42653	4*0Ω 5%
RP4502	9965 000 42655	4*15 Ohm 5% 1/16W
RP4503	9965 000 42655	4*15 Ohm 5% 1/16W
RP4504	9965 000 42655	4*15 Ohm 5% 1/16W
RP4505	9965 000 42655	4*15 Ohm 5% 1/16W
RP4506	9965 000 42655	4*15 Ohm 5% 1/16W
RP4507	9965 000 42655	4*15 Ohm 5% 1/16W
RP4508	9965 000 42655	4*15 Ohm 5% 1/16W
RP4509	9965 000 42655	4*15 Ohm 5% 1/16W
RP4510	9965 000 42653	4*0Ω 5%
RP4511	9965 000 42653	4*0Ω 5%
RP4512	9965 000 42653	4*0Ω 5%
RP4513	9965 000 42653	4*0Ω 5%
RP4514	9965 000 42653	4*0Ω 5%

L4401	9965 100 02515	2.2uH 10% 1206
L4401	9965 100 04047	2.2uH 10% 1206
L4402	9965 100 02515	2.2uH 10% 1206
L4402	9965 100 04047	2.2uH 10% 1206
L4403	9965 100 02515	2.2uH 10% 1206
L4403	9965 100 04047	2.2uH 10% 1206
L4404	9965 100 02515	2.2uH 10% 1206
L4404	9965 100 04047	2.2uH 10% 1206
L4405	9965 100 02515	2.2uH 10% 1206
L4405	9965 100 04047	2.2uH 10% 1206
L4406	9965 100 02515	2.2uH 10% 1206
L4406	9965 100 04047	2.2uH 10% 1206
L6301	9965 000 42610	Choke Coil
L6301	9965 000 43841	Choke 35µH 10% 82MΩ
L6302	9965 000 42610	Choke Coil
L6302	9965 000 43841	Choke 35µH 10% 82MΩ
L6303	9965 000 42610	Choke Coil
L6303	9965 000 43841	Choke 35µH 10% 82MΩ
L6304	9965 000 42610	Choke Coil
L6304	9965 000 43841	Choke 35µH 10% 82MΩ
L7201	9965 000 42610	Choke Coil
L7201	9965 000 43841	Choke 35µH 10% 82MΩ
L7202	9965 000 42610	Choke Coil
L7202	9965 000 43841	Choke 35µH 10% 82MΩ
L7203	9965 000 45223	Choke 56uH 10%
L7203	9965 100 04782	Coil 56uH 10% 92m Ohm
L7205	9965 000 42610	Choke Coil
L7205	9965 000 43841	Choke 35µH 10% 82MΩ

D1101	9965 000 45215	LS4148
D1101	9965 100 02831	LL4148 GS08
D1101	9965 100 03321	LL4148-GSO8
D1101	9965 100 03327	BAS32L
D1102	9965 000 45215	LS4148
D1102	9965 100 02831	LL4148 GS08
D1102	9965 100 03321	LL4148-GSO8
D1102	9965 100 03327	BAS32L
D5101	9965 000 45215	LS4148
D5101	9965 100 02831	LL4148 GS08
D5101	9965 100 03321	LL4148-GSO8
D5101	9965 100 03327	BAS32L
D5102	9965 000 45215	LS4148
D5102	9965 100 02831	LL4148 GS08
D5102	9965 100 03321	LL4148-GSO8
D5102	9965 100 03327	BAS32L
D5103	9965 000 45215	LS4148
D5103	9965 100 02831	LL4148 GS08
D5103	9965 100 03321	LL4148-GSO8
D5103	9965 100 03327	BAS32L
D5104	9965 000 45215	LS4148
D5104	9965 100 02831	LL4148 GS08
D5104	9965 100 03321	LL4148-GSO8
D5104	9965 100 03327	BAS32L
D6201	9965 000 45215	LS4148
D6201	9965 100 02831	LL4148 GS08
D6201	9965 100 03321	LL4148-GSO8
D6201	9965 100 03327	BAS32L
D7201	9965 000 45216	BZX384-C9V1
D7201	9965 100 04131	PDZ9.1B
D7202	9965 000 45215	LS4148
D7202	9965 100 02831	LL4148 GS08
D7202	9965 100 03321	LL4148-GSO8
D7202	9965 100 03327	BAS32L
D7203	9965 000 45217	SS34
D7204	9965 000 37806	SMD
D7207	9965 000 37806	SMD

Q1101	9965 000 40045	MMBT3904
Q4301	9965 000 36033	RK7002
Q4301	9965 000 42651	2N7002 SOT-23
Q4301	9965 000 42652	2N7002E
Q4302	9965 000 36033	RK7002
Q4302	9965 000 42651	2N7002 SOT-23
Q4302	9965 000 42652	2N7002E
Q5101	9965 000 37397	MUN2211J
Q5101	9965 000 42211	PDTC114EK SC-59
Q5102	9965 000 40045	MMBT3904
Q5103	9965 000 40045	MMBT3904
Q5104	9965 000 37397	MUN2211J
Q5104	9965 000 42211	PDTC114EK SC-59
Q5105	9965 000 37397	MUN2211J
Q5105	9965 000 42211	PDTC114EK SC-59
Q6201	9965 000 37397	MUN2211J
Q6201	9965 000 42211	PDTC114EK SC-59
Q6202	9965 000 37397	MUN2211J
Q6202	9965 000 42211	PDTC114EK SC-59
Q7103	9965 000 36033	RK7002
Q7103	9965 000 42651	2N7002 SOT-23
Q7103	9965 000 42652	2N7002E
Q7104	9965 000 36033	RK7002
Q7104	9965 000 42651	2N7002 SOT-23
Q7104	9965 000 42652	2N7002E
Q7105	9965 000 36033	RK7002
Q7105	9965 000 42651	2N7002 SOT-23
Q7105	9965 000 42652	2N7002E
Q7106	9965 000 36033	RK7002
Q7106	9965 000 42651	2N7002 SOT-23
Q7106	9965 000 42652	2N7002E
Q7107	9965 000 36033	RK7002
Q7107	9965 000 42651	2N7002 SOT-23
Q7107	9965 000 42652	2N7002E
Q7108	9965 000 36033	RK7002
Q7108	9965 000 42651	2N7002 SOT-23
Q7108	9965 000 42652	2N7002E
Q7109	9965 000 36033	RK7002
Q7109	9965 000 42651	2N7002 SOT-23
Q7109	9965 000 42652	2N7002E
Q7110	9965 000 36033	RK7002
Q7110	9965 000 42651	2N7002 SOT-23
Q7110	9965 000 42652	2N7002E
Q7201	9965 000 37397	MUN2211J
Q7201	9965 000 42211	PDTC114EK SC-59
Q7202	9965 000 40045	MMBT3904
Q7203	9965 000 37397	MUN2211J
Q7203	9965 000 42211	PDTC114EK SC-59
Q7204	9965 000 45224	SI4835BDY
Q7205	9965 000 37397	MUN2211J
Q7205	9965 000 42211	PDTC114EK SC-59
Q7206	9965 000 45224	SI4835BDY
Q7207	9965 000 37397	MUN2211J
Q7207	9965 000 42211	PDTC114EK SC-59
Q7208	9965 000 45224	SI4835BDY
Q7209	9965 000 37397	MUN2211J
Q7209	9965 000 42211	PDTC114EK SC-59
U1101	9965 000 42645	74LV4053PW TSSOP16
U1102	9965 000 35965	M24C02-WMN6TP
U1102	9965 000 42647	AT24C02BN-10SU-1.8
U1102	9965 100 08599	AT24C02BN
U1103	9965 000 42633	74LVC14APM
U1201	9965 000 42623	FQ1256/ I H-5
U1201	9965 100 04062	Tuner FQ1216PN/I H-5
U4102	9965 000 42646	M30300SAGP
U4103	9965 000 42640	AP1701FWL
U4103	9965 000 42641	AME1117BCGTZ
U4201	9965 100 02477	CS4344-CZZ
U4202	9965 000 42634	SVP-PX66 BGA336
U4501	9965 000 42632	K4D26328G-VC36
U4501	9965 000 42638	HY5DU283222BFP-33
U5101	9965 000 35965	M24C02-WMN6TP
U5101	9965 000 42647	AT24C02BN-10SU-1.8
U5101	9965 100 08599	AT24C02BN
U5102	9965 000 35965	M24C02-WMN6TP
U5102	9965 000 42647	AT24C02BN-10SU-1.8
U5102	9965 100 08599	AT24C02BN
U5103	9965 000 45232	PI5C3257QEX
U5104	9965 000 45233	PI3HDMI412FT-AZHE
U6201	9965 000 42637	74HC4052D PHILIPS
U6202	9965 100 02475	MSP3410G-QI-B8V3
U6202	9965 100 04463	MSP3450G-QI-B8-V3
U6301	9965 100 05956	TPA3101D2PHPR 10W
U6302	9965 000 42631	TDA1308T/N2
U6303	9965 100 06758	TPA6201A1DGNR
U7104	9965 100 06759	IC BA7046F SOP8
U7201	9965 000 42628	AME1084ECDTZ
U7202	9965 000 42627	AME1117BCGTZ
U7202	9965 000 45236	AP1117E25LA
U7202	9965 100 04454	LD1117S25TR
U7203	9965 000 45238	AP1117E25LA
U7204	9965 000 44277	AIC1596-50PM5
U7204	9965 000 45239	AP1501-50K5LA
U7205	9965 000 42208	AME1117ECGTZ
U7205	9965 000 42626	LD1117AS18TR
U7205	9965 000 45240	AP1117E18LA
U7209	9965 000 42209	AME1117CCGTZ
U7209	9965 000 42624	LD1117S33 SOT-223
U7209	9965 000 45242	AP1117E33LA
U7211	9965 100 06757	AP1501-12K5LA

11. Revision List

Manual xxxx xxx xxxx.0
- First release.

Manual xxxx xxx xxxx.1
- **Chapter 10:** 32HF7445/97 spare parts added